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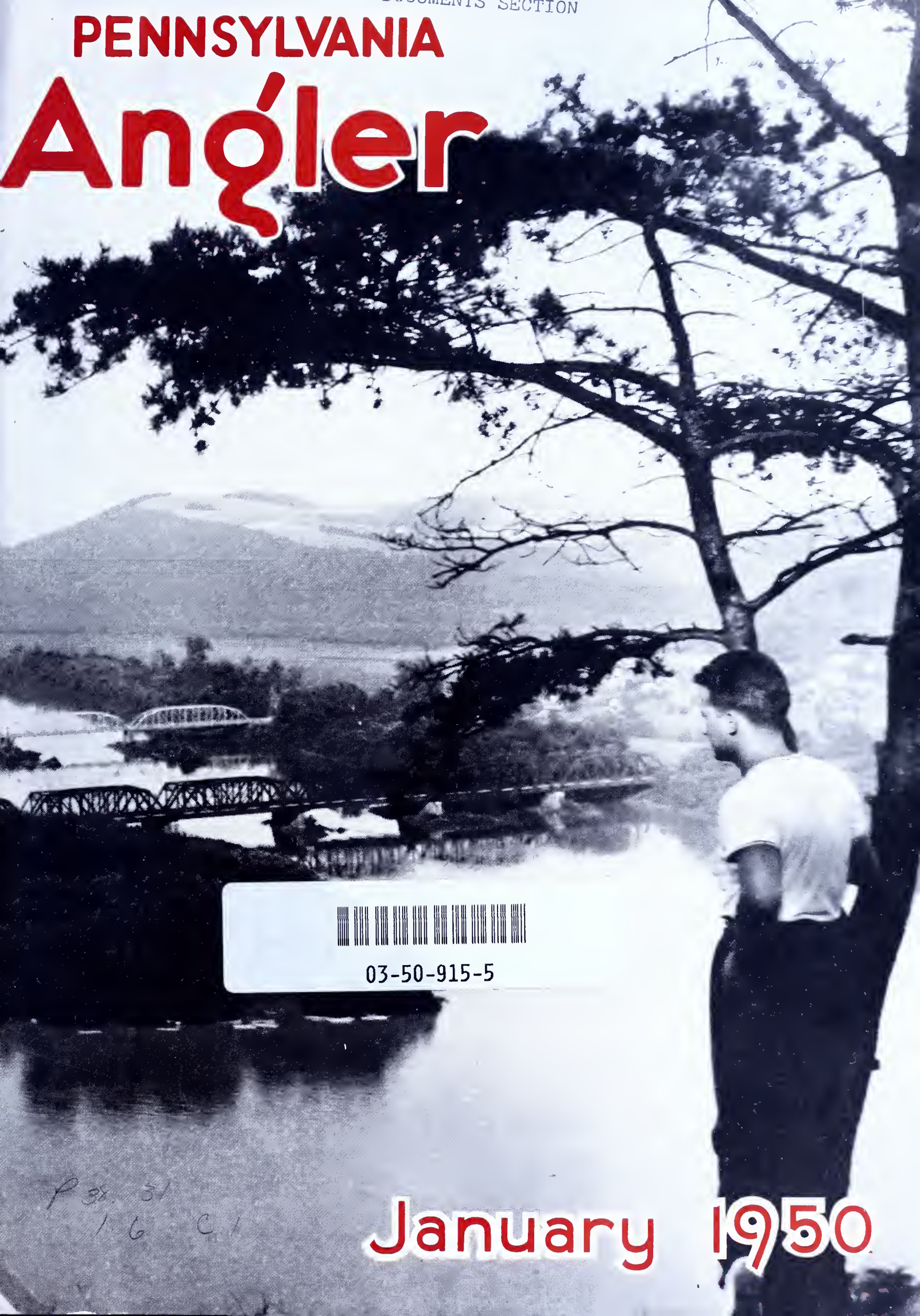

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The Angler

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The Cover . . .

Where the North Branch meets up with the West Branch, Susquehanna River at Northumberland

(Photo by Harry Matter, Sunbury)

THE WALLENPAUPACK

Slow Wallenpaupack, swift Wallenpaupack,
Tell us the tales of the days that are o'er,
When the darn Delawares, awed by your whimsies,
Gave you the name you will wear evermore.

Then came the time, when brown men and white men
Vied for the vale, where you placidly dream;
Block house and powder vanquished the arrows.
Never again will the birch canoes gleam.

Soon the keen axes entered your shadows;
Down your slow current the great trunks you bore.
Catching in anguish some to your bosom—
Still they lie thick in the sands of your floor.

Now men would tame you, put you in harness,
Over the Poconos lead you away,
With your great power chase back the darkness.
Turn your bright spirit to work, not to play.

Service is noble, but beauty is glorious!
Grieving we'll cherish your joyousness still,
Know the glad leap and the song of your waters
Seeing the dry bed you shaped to your will.

We'll miss your beauty! How we have loved it!
Weave once again the mystical spell
Of tall hemlocks sprayed with jewels of winter.
Then Wallenpaupack, old Paupack, farewell!

—Nora Del Smith Gumble

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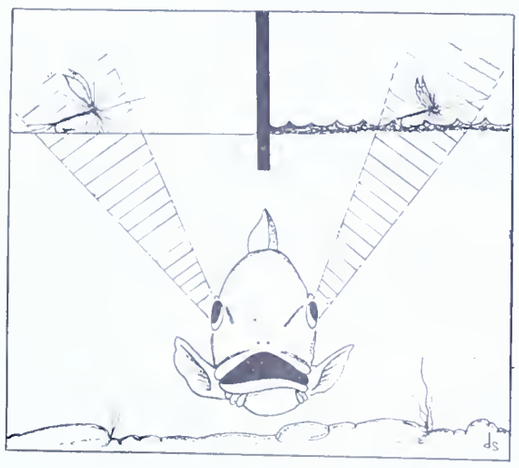
"A DISCUSSION ON VISION AND COLOR"

By DON SHINER

How a fish sees, and whether it can detect color or only shades of black and grey, is a subject that can start a lengthy discussion. Many fishermen have advanced their ideas on this subject, some having strong convictions, others perhaps not giving the subject much thought before this time. However, regardless of the many theories advanced, man by nature often errs and can only surmise that certain characteristics are true by scientific controlled tests and logical imagination. Perhaps if fish could talk they would make our accusations seem fantastic and utterly ridiculous, yet, since this will never happen, we can only guess and experiment.

To begin with, water is an entirely different medium in its make up from that of air. We do know that man can see extremely well through air but is limited to blurred nearby objects underwater. It can be assumed that fish are exactly opposite of this, can see well through water but is limited nearly to the point of blindness through air. Surely this could be the case for the eyes of man are certainly more highly developed and any limitations of vision would sooner occur to the fish. However, I have often marveled at the fact while standing on the bank overlooking a pool that the slightest movement would send the fish scurrying for cover. Truly it is remarkable, the great distance and accuracy of the vision possessed by the finned creatures. On the other hand, other wildlife beings are exactly the opposite. Take the case of the black bear, it is known to have exceptionally poor eye sight. After generations of securing food (mostly beechnut) with noses pointed so close to the ground, they have become extremely nearsighted to the point that they can not see clearly for more than a few yards away. Fish seem to be able to see the objects practically in front of their noses, and can see a fisherman on the bank, yards and yards away too. Their eyes must have a more broad scope than one would at first give them credit for having.



Trout are deceived by more artificial flies which are cast on currents and choppy water than on still pools. The rippling surface causes the image of the fly to be blurred.

Man has eyelids when blinked cover the eye and keep the tissue well moistened and dust particles washed away. Fish have no such covering since the water in which they live serves this purpose.

Another point that is definitely a contrast between man's eyes and those of fish is that the latter has eyes placed on each side of the head. This allows them to see directly ahead as well as to each side, overhead, beneath and to some distance toward the rear. Each eye too has its own nerve tissue connected individually to the brain. By this it might be supposed that fish are permitted to view two entirely different objects at the same time.

A trout may be eyeing your Coachman fly as it floats overhead with one and the other may be watching a small minnow swimming leisurely nearby. Then again, the trout may be watching your wet fly with one eye and have the other eyeing you as you stand knee deep in the water. This is a curious assumption and bares considerable thought. It might be one well worth remembering the next time you are fishing in low clear water.

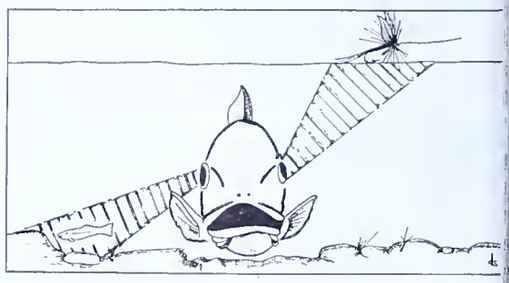
One factor which limits the vision of fish is the depth of water. Naturally the farther the distance is between the eye and the object, the greater the scope, field or window is. From this, it can be clearly seen that fish in deep water have a command of a much wider view of the surface than when in low water. However, on the other hand, one can not conclude that fish in shallow water can not see as far nor as clear, thus allowing an angler to move closer to the fish. This might be true if the fisherman is the same level as the water, but since he towers well above the surface the fish can quickly spy him. While they are limited to the objects they can visualize above the surface, they can readily detect quick movements and are immediately alarmed by them. So, take your time while wading along a stream, move slowly and deliberately with little fuss or commotion.

How do trout see our artificial flies? Let's not kid ourselves in believing that our flies actually imitate the live insect upon which a trout may be feeding. They do seem to take them, and sometimes very well, but to look at the situation and come to any logical reasons why they do must come by overworking the imagination. Probably the factors of a perfectly flat water surface and those which are ripply or rough have a great deal to do with this.

Undoubtedly perfectly flat water having a smooth unbroken surface gives fish a fairly good vision of objects on the water. On the other hand if the water is choppy, each ripple acts like a lens and without a doubt distorts the finned creature's vision. This is why more trout are deceived and caught in currents and choppy water than in still pools on artificial flies. At least I have noticed this, I can always do better on broken water than on those with clear, sparkling, smooth surfaces.

We can get a better idea of this condition by filling a clear bottom beaker with water and laying a fly on the surface. We must remember the fish view the flies from the bottom towards the light and we must hold them thusly if we are to arrive at any true theories. When the beaker is held perfectly still so that the water's surface is smooth and unbroken by tiny rings, the fly can be quite clearly seen. Yet, when the beaker is jarred the fly is almost impossible to see. There can be no question that this is true for the trout's vision too. When the water tumbles over rocks and has its surface broken, little or no objects can be seen by the fish above them. A wind rippling the water is like laying a carpet over the water, for in both cases, little can be seen above them.

The sun too must surely blind fish when they look directly upward as a fly placed at different angles afford a different view. Some angles or areas are total blind spots for fish, but as the angle is shifted or moved slightly a faint image appears and continues to become clearer as the angle is increased between that of the fish's eye and the sun. Undoubtedly at some



A trout may be watching with one eye a Royal Coachman fly as it floats overhead, and the other eye may be watching a small minnow nearby.

gles the image of a fly is completely ased by the sun's reflections, then ain, at others, it can be actually seen it exists.

Perhaps at the particular spot where e fly is barely visible but not too early seen is the place where a trout ll rise and take it. If the fly was aced so that it could be clearly seen, probably would be refused. This ay answer why repeated casts over e same area so the fly floats at a ght different angle each time brings sults. Probably on some of the casts e fly could not be seen by the fish, hers the fly may be easily seen to a fraud. So here's another impor- nt point every fisherman should re- ember, repeated casts over one spot t only may represent to the trout hatch of flies beginning to take place, t some of the casts may not be seen the trout at all. So be sure to make number of casts at each likely look- g spot and of course float the fly each ne as naturally as you can, without y excess drag.

The natural insects when viewed to- ards the light seem almost trans- rent, at least to the point of being anslucent. This is definitely untrue out our artificial flies for the hook definitely opaque. The more bushy e fly the more concealment the hook s and less chances of it being seen the trout is a natural assumption. owever, often the sparsely dressed is the one that does the trick. This ould impress most anglers the need carry both heavily and sparsely essed flies of the same pattern.

Another amazing fact is that fish will cept our poorly made imitation flies, ok and all being visible, but will fuse them if any bits of foreign mate- al is attached, such as moss, grass, c. Occasionally a fish will take a re which has picked up some bits of reign matter, but as a rule it will refused. Some anglers have found at by floating a dry fly on a leaf for me distance and then twitching the off the leaf so that it appears as ough the fly fell naturally is a trick at trout generally fall for. However, ould the hook catch into part of the af and have this particle remain at- ched to the barb, ten chances to one e fly will go by untouched. This is pecially true while trolling for fish. the spinner or lure snarles some nderwater grass or moss, seldom will e fish strike. We can only theorize out these things to arrive at any gical and workable answer.

Whether a fish can detect color another question which has had ngthy discussions on. Recently there ve been some very important dis- veries made on this subject. By rious tests, it has been proved that h are aware of certain colors and me of these colors are more prom-

A thorough study on trout's vision and its ability to detect color will unquestionably increase our 'luck' when using artificial lures. This beautiful creel of trout was caught in Fishing Creek, Columbia County.

inent in their spectrum than others. And I have noticed too that even on the darkest of nights, trout would accept certain colored flies, yet refuse others of a different color even if they were tied identically the same. I must confess that I sincerely believe fish to have the ability not only to detect the difference between colors but believe they are extremely sensitive to them.

Other game fish seem to have a preference for certain colors. Bass seem to be aware and respond to yellow, red and various shades of these colors. Jack Knight, when he tied his first "Mickey-Finn" fly, composed of yellow and red, hit upon a color combination that was highly sensitive to bass. Proof of this is the fact that it has grown to be one of the most outstanding American flies, for it is a potential fish getter in every respect.

Trout especially like yellow, brown and dusty blue colors. Pickerel and pike seem to respond well to white, red, yellow and orange. These colors should be kept in mind when selecting patterns of flies and lures in the future. This does not imply that other colors and color combinations do not work. We know very well in many instances they do. However, there are times when game fish will strike at most anything, then again, they can be provokingly selective. This latter time is the period when the proper colors (those mentioned) will get results if it is at all possible.

However, in connection with this,

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THE WORM HAS ITS DAY

By JACK ANDERSON

"Well that settles it." Disgust nudged through Bill's voice as he rummaged his pocket for the ignition key to the car. "I've got to go back home."

Dawn pushed a wet gray shoulder from the east, bringing into hazy outline the brush and trees and silent slowly-moving men that marked the course of the Little Lehigh River. This was not an ordinary dawn. It was the break of a day which had broken in our dreams for many weeks. The chuckle of the river called us. April fifteenth morn! . . . And here was Bill, paying for carelessness.

Hopefully I looked up from the job of threading line through flyrod guides. "Look in the glove compartment. Maybe it's there."

"Or it might be on the floor of the car," Bob, third member of our party, suggested, a thin trace of humor in his voice.

"It ain't, damn it, it ain't," and with angry snaps Bill disassembled his flyrod and stuffed it into the car. "No sir, that fishing license is home on the dresser top, and I may as well go get it now."

Sympathy for Bill hit me in a quick twinge; and then for personal reassurance I checked my own equipment. Luckily I seemed ready to go. And I say luckily because this year I'd been busy and hadn't given careful attention to anything, even neglecting a five-year-old pair of hip boots. So while Bill went home for his license Bob and I slid through tall wet meadow grass and debated our first fishing holes.

First, last and always, Bob was a minnow fisherman. He used a minnow about an inch and a half long on a number four hook, keeping the minnow straight with a pin on the shank. The minnow was fished cross-current, as a rule, with enough shot to keep it from swinging to the surface. Bob, I knew, loved also to search out deep waters, where the stream flowed with a swift silent rush, and he could play the minnow around submerged stones and under brush piles. With the stream high and the color of maple bark I wasn't surprised when Bob decided to join the group of fishermen under the bridge, where the water swept in a great, deep curve.

Being one who appreciates lone fishing, I quickly crossed the mill race and meadows toward Fink's farm, below the huddle of fishermen. There was a single fisherman standing at the spring house and worm fishing the surging rapids, but below, where deeper waters dance under a spread of willows, was the unpopulated stretch I was looking for. This was *it*. Yearning for the feel of the first strike, I waded across a patch of overflow water and mossy stones to the creek.

There aren't many fishermen who haven't some pet lure to start with on opening day. My pet is a ragged crimson bucktail. There isn't much reason for choosing this lure. A few years before it had worked wonders, and the memory of this sporting day influenced me. So I started fishing, working the bucktail across current as Bob would a minnow.

I hadn't fished more than ten minutes when I realized that I, like Bill, was going to pay for carelessness. I stepped into about two feet of water and felt a trickle of the ice cold Lehigh down my bare foot. My left boot was leaking. I told myself, perhaps for the hundredth time in my life, that no man should go astream without an inspection of paraphernalia.

On this matter of boots we are all careless, and yet poor boots can certainly make a mess of an otherwise enjoyable trip. In this same stretch two years before a friend had slipped on one of the countless mossy stones and fallen in neck deep. He was wading in boots which had been worn smooth on the bottoms. Boots which are smooth are a positive nuisance and in a larger stream, such as the Pocono's Brodheads, actually dangerous. Many sporting goods manufacturers now make boots with deep treads, and these to my mind are far superior than the simple, dimpled rubber bottoms. Footgear of course should be worn according to the stream to be fished (for instance waders and not boots would be the gear for the Paradise, Brodheads or upper Big Lehigh), and careful selection is as important as the selection of a flyrod.

So much for that—I now was doing my fishing with one wet foot. Working persistently with my bucktail, I moved downstream. There was no action. As a rule, trout are found on the opening day, with the water high and swollen as it usually is, in the midstream area. This area I combed with my lure. Twice I had hits in a short rapid below the spring house, but each time the fish did not take hold.

These two strikes did not seem significant. After the third strike, however, I caught on. The trout were nudging the lure and flipping their tails at it, but weren't grabbing hold. I'd run into this situation many times before. The minnow fisherman often runs into it too, especially when streams are falling after a rain.

I fished an hour without luck, having switched to various bucktails and streamers. It was while pausing for a smoke that I noticed the worm fisherman beside the spring house landing a trout. To say that sight of the fish gave me fever is putting it mildly. I waded to shore to change leaders.

Here and now I will confess that I feel a burn every time someone accuses a worm or minnow fisherman of not being a good sportsman merely because of his choice of bait. Personally I think that minnow fishing in particular requires as much skill as most artificial lure fishing, and your strikes are just as sensational. Furthermore many men with families cannot afford fly fishing. The great percentage of minnow and worm trout fishermen are not "meat hunters." They are enjoying their sport as they see fit. That many have developed a high degree of skill is attested by consistent catches. They are, for the great part, members of "half-a-limit" clubs, and they do a lot of good taking old brownie lunkers from our bigger streams.

A Pocono trout stream.

shing a typical opening day swollen stream.

This was not written because I ded ashore to change leaders, and hook fast a worm. It was written cause, to my way of thinking, the rm or minnow fisherman owes nody an apology for his sport. Although prefer fly fishing as a rule, I've pped a hook through many a worm d many a minnow and will undoubtly slip a hook through many more. It's the man, and not the bait he es . . .

After securing my new leader I dected with myself on the amount of d needed. I decided on two strips. hen I hooked on three red worms, ch worm hooked once with the ends ngling. After much experimentation r group has found several small rms usually produce better results an one monstrous nightcrawler. I aded back into the stream—for other dose of water in my boot and me more fishing.

Before telling about the fishing, let e tell of one more thing that somenes causes trouble when bait fishing; d this is very true of minnow fishing. void the use of bright swivels and eights, such as those made of brass. have had more strikes on these bright jects than I'd care to talk about.

Ready for another try, I dropped my orm mass at the top of a riffle, trying judge it so the worms would be deep hen they swirled into the part of the le that had held trout in previous ears. The weight seemed to be just out right. The worms sank, but I uldn't feel them hooking at the ones. The line didn't snag, it flowed om my guides, following the edge of e main current, where trout often lie. That first cast told me the worm ould have its day. A trout grabbed old and ran downstream, tugging riously. It is this downstream strike at causes trouble. Very often the orm will be jerked from the hook. uickly dropping the tip of the rod, followed the strike, waiting until the line was ripped through the guides in a steady sweep. Then a very short release of line and a flip of the rod tip set the hook.

Mr. Trout was on, and when he stood on his tail I saw he was a nice stocked rainbow. He jumped twice, then soared upstream. This was good, as the current was strong and it was easy to keep stiff pressure. When he turned down-current I firmly and steadily persuaded him into slow, deep water.

It was after I had brought the trout to net that I saw the second result of pre-season neglect. I lifted the net, but the fish wasn't in it. In fact, there was no net. The strings of the net had rotted and the fish burst through. After further playing I got the fish, but I hoped nobody had seen *that* exhibition. . . .

Making a worm sink in a natural

Check your boots before season. They may leak.

manner is one of the tricks of the trade. To do this, you must prevent the rod from exerting its influence on the bait. Downstream, in swift but silent-running water, I solved this problem by tugging some line from the reel, casting slightly upstream, and then releasing line by waving the rod tip back and forth. I got another strike on this cast. Often when fishing this method a trout will take the bait and your only clue will be that the line stops abruptly. Occasionally you will find yourself snagged, but chances are if your weight is correct you will have a trout. When my line halted I cautiously drew in line. Soon I felt something working at the bait. The tugs were slow, deliberate, an indication of a good-sized trout, as a small one will jerk erratically. I set the hook, and the result was a thirteen inch brownie.

The third brownie—and the biggest trout of the day—came from beneath submerged willow roots. A long time ago a veteran trout fisherman cautioned me on this very same stream that underwater obstacles, however difficult, should be solved by some technique of fishing and searched for trout. Of course you lose hooks and leaders following this advice. But you also get the trout that an easy street angler overlooks. Looking over the willow roots I decided that if my worm was dropped on a slack line five feet from the roots my weight would prevent snagging in the roots. The bait would be below the danger level. Just about when I figured the worm had reached the distance of the roots the trout grabbed hold and headed toward his brushy home. His lunge and my "set" was one, and I didn't fool long near the roots. He played himself out in midstream and I landed him by slipping fingers under the gill cover.

With four trout creeled, I met Bill. He didn't look much happier than when I saw him last, headed home for his license.

"I see you're fishing worms," he said, a tinge of contempt in his tone.

"That's what they're hitting best as far as I'm concerned," I opinioned.

"Did you cut one open?" he asked. "I can't find the fly they want."

We stepped back in the meadow grass and performed an operation, using the big brownie for our test. The brownie had gobbled down a water worm. Beside this worm, the only discernible things were sticks and tiny pebbles.

"He's been feeding on caddis creepers," Bill observed. "I never have much luck fishing them. They're supposed to do the trick if you let them float down current naturally, much like a worm. Fact is I don't have one with me. I think I'll try bucktail."

I related my bucktail experience. Bill shrugged.

Later on Bob joined us, and his minnow fishing experience had been

(*Turn to Page* 19)

A worm fisherman was working the Spring House Rapids.

The Secret

By N. R. CASILLO

After the ten-inch snowfall on that memorable last day of March, the thermometer shot down to a near freezing temperature and hovered there practically all afternoon. That evening it grew even colder, so Charley Leahy, Jack Perry and I repaired to the cellar of my home to watch Dad put the finishing touches to a new skiff.

As Dad, with that expert finesse of his, deftly swept the paint brush over the trim lines of the little craft, he turned to the assembled trio and asked: "I suppose you boys are aware of what falls on tomorrow?"

"Sure," dismally replied Charley, making a wry face, "trout season comes in."

"No one'll be out with all this snow," observed Jack almost mournfully.

Dad smiled and leaned against the work bench. "Guess, you've all forgotten about old Hen Woods—he'll be out to get his usual string."

Old Hen, as he was known by the fishing gentry of the town, was acclaimed the best "meat" fisherman in the district. Bearing such a reputation was no disgrace either, for in those days the worth of an angler was measured by his ability to "bring home the bacon."

Hen's custom of going out on the opening day and returning before noon with an astounding string of brook trout had been pursued for so long a time, and with such regularity that the occurrence had become almost legendary. It announced the coming of spring as unfailingly as the first robin. Weather had no bearing on Hen's activities, he would be out as surely as the day rolled around—and alone as always.

Ever since we boys had been tall enough to look into the hardware store window we had gazed upon Hen's annual catches. In fact, on one occasion all three of us were more than an hour late for school because we had looked too long and ardently.

I recall vividly when Hen was accused of buying the trout he displayed. Henceforth, instead of removing the hooks from the collective mouths of his annual catch, he cut the line and tied on a new hook for each trout taken. Frequently we would stare in wonder at the wriggling sections of earthworms still impaled on the hooks in the cavernous mouths of the big fish.

To the doubting ones this procedure proved nothing, and even if it did they wouldn't have conceded the point. Undisturbed by the mild furor that he annually fomented among those individuals, the old angler persisted with the unique custom until he passed on.

Dad had often fished with Hen, but in spite of the ties of fellowship he never pried into Hen's secret. What is more, Hen also steered clear of the subject, even though he was free with any other confidences that he thought might interest Dad.

However, on that last night in March, as Dad leaned against the work bench, he slowly wiped the paint brush, carefully placed it in its can of turpentine and then looked from one to the other of us. Suddenly, he slapped his thigh and brought his fist down on the bench.

"I've got it!" he finally exclaimed. "How would you boys like to share old Hen's secret?"

We were one jump ahead of him. "How!" we eagerly chorused.

"I don't know as it'll be so easy," he smiled, "but I have a hunch that you boys can turn the trick."

"How?" we all cried again, more eagerly than before.

"Well," he pondered, "it won't be so easy, for Hen is a wily cuss, but my idea is that he *can* be followed."

"Easy enough if we can find out when he starts," I offered.

For nearly a minute Dad stared at the ceiling as if in deep thought. "Several have tried it," he replied at last, "but without success."

"I'm sure we can do it," I stoutly averred, my boyish enthusiasm more than making up for my vast lack of judgment.

"Sure we can," agreed Charley with the finality of tone of a sentencing judge.

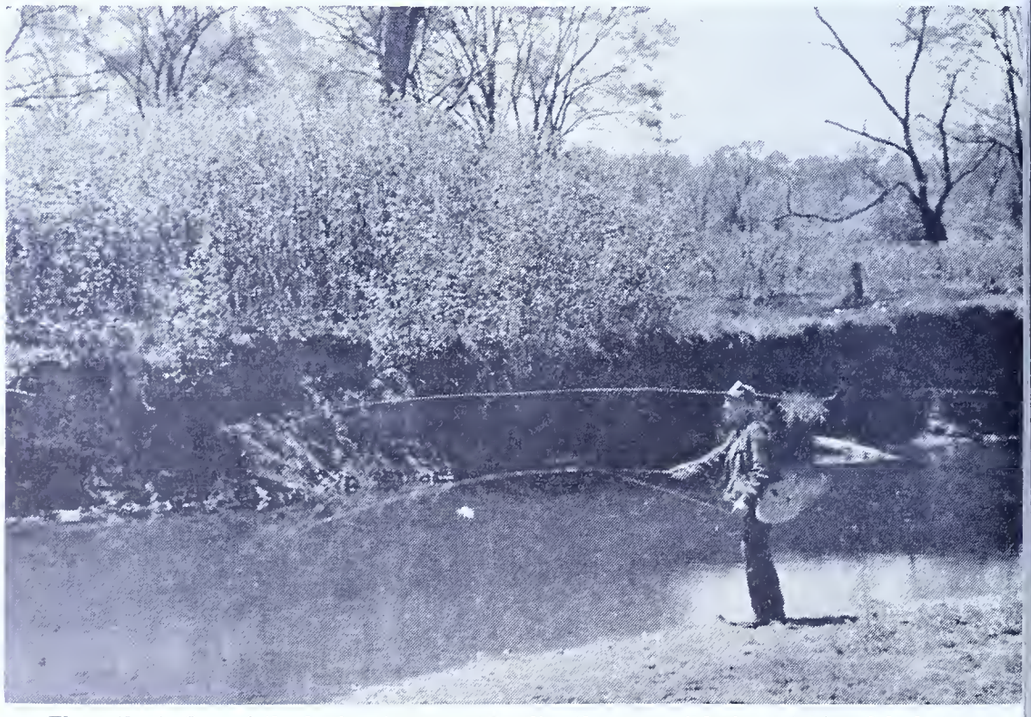
A reasonable catch of fish never fails to evo interest, but when the fish are freshly caug trout, in this case, brownies, the pulse quicke perceptibly.

Dad snapped out of his reveri wiped his hands on an old shirt, an announced that he would try to ge maternal permission; a matter whic I know bothered him more than little. However, he sheepishly clumpe up the cellar stairway to present hi proposal.

I don't know how he obtaine Mother's permission, but her conser was open sesame to Charley and Jac for they experienced no difficulty i getting parental sanction when the respective parents were told that min approved the plan. By ten o'clock w were ready and anxious to start. I the meanwhile, Mother had packed a ample lunch which she stuffed into pocket of a big coat under which staggered.

That night a thin moon looked dow upon three furtive figures making fo Hen Wood's premises; our objectiv being a venerable clumb of lilacs grov ing between the woodshed and th southwest corner of the barn.

Hen's home was typical of the Ne England small town; a large, squaris house, surrounded by a white pick



The rythmic flow of the backcast may not be directly responsible for catching fish, but a grea deal of satisfaction is derived when it is done skillfully. Note the amount of line being handle here.

'he expert flycaster often makes lures to fit time and conditions. This is George Short, isher extraordinary, turning out a new crea-n at streamside.

nce and dominated by large elms and couple of immense conifers.

In the true Nimrodian style Hen ed alone, content in the possession an array of accoutrements and raphernalia vital and incidental to e efficient conduction of his outdoor rsuits. It was popularly believed out town that he had some mys-rious source of income for "he didn't enough work to support himself cently, to say nothin' of spendin' oney for all them there contrapshuns his'n." And people were no dif-rent then than they are now.

As I remember him, Hen had a spare ame of medium height, skin like nned leather, and a face that strik-gly resembled Mark Twain's; bushy ebrows, fine leonin head and all. verything about him and his place as scrupulously neat and clean; the onder of all the maiden ladies in wn.

Upon reaching our destination we ere startled by the soft nicker of en's horse, a feeble beast that had companied his master on many a fishing trip. I like to believe that the slight sounds we made were mistaken by the horse for those made by Hen approaching the barn. It's even probable that John Thomas (the horse), knew that the zero hour of another fishing season was imminent, and nickered at the prospects of an early start.

As the night wore on it grew warmer and the clothing in which I was swathed became highly uncomfortable. It seemed as if a column of steam must be rising from under my coat collar, the only point of egress in that heatproof armor. My companions fared no better.

When the sickle moon dropped behind West Hill, I unbuttoned two coats and as many sweaters to get at my vest and the watch it contained. The thick family heirloom indicated two o'clock.

Shortly after two we heard the crunch of footsteps and looked up to see a dim figure cautiously treading the path between the back door of the house and the barn. Hen, for that's who it was, loaded down with something bulky passed rapidly around the corner and made for the barn door. In a few seconds we heard the low rumble of the sliding door and this time, an eager whinny from John Thomas.

"Quit it ye old rascal. D' ye want to wake the town?" This from Hen as he backed the horse from the stall and guided him between the shafts of a buggy. All this we adjudged from the sounds emanating from the dark interior.

In a couple of minutes the horse came out at a smart walk, crunched past us down the drive and turned left at Main St. Upon reaching Dodge's drugstore at the head of the square we swarmed from our hiding place and started following the guileless Hen.

At the junction of the Marlow and Munsonville roads, only a short distance from the center of town, they turned to the right and stopped at the Beaver Brook bridge.

"Could it be Beaver Brook that he fishes?" Jack asked hoarsely.

"Looks like it was," declared Charley. "Phew, I'm roasting alive," he added as he ripped open one of the numerous plies of clothing in which he was wrapped.

Beaver Brook which flowed practically through the center of town was considered good fishing up at the beaver meadows, located but a short distance above the bridge where Hen had halted. At the "meadows" the stream had been appreciably widened by the water backing behind an ancient beaver dam. It was "understood" (as the editor of the town paper annually expressed it), that big trout frequented the deep holes above the dam. The holes were seldom if ever fished because it was difficult to reach them.

"Can't be he's goin' to fish the meadows," I remarked. "It's still frozen up there."

"What's goin' to stop him from fishin' through the ice?" asked Charley.

"By jingo!" excitedly exclaimed Jack, "that's how he's been gettin' 'em there big trout—through the ice. Don't you see," he went on with mounting fervor, "that's the only way you can reach 'em deep holes out in the middle."

With that we shrank back into the shadows and waited for Hen to make the next move. The trail was getting hot or so we thought.

Hen didn't get out, he had stopped simply to permit the horse to gather his forces before essaying the long grade immediately ahead of them.

John Thomas stormed the heights of Beech Hill in grand style, while we steamed on a safe distance behind literally stewing in our own juices. On the flat at the summit the horse surprised us by breaking into a mild trot and thereby adding to our discomfort. The mile-long descent to the Branch was a welcome respite as it gave us a chance to rest and cool off.

For another mile they followed the road alongside the stream and then crossed it at the Roxbury bridge. In a little recess just beyond the bridge Hen pulled up and stiffly crawled out of the buggy.

"Here we are," we heard him say as

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Fishing is a combination of numerous ingredients, both tangible and intangible. Upon them depends the success or failure of a fishing jaunt. Sparkling water, untainted air, the smell of growing things and good companions are a few of the ingredients.

Required Study

By ALBERT G. SHIMMEL

Trout streams according to the calendar artists are the haunts of certain barefoot boys laboring along cheerfully under strings of huge trout much to the embarrassment of the well equipped adult angler in the background, who scratches his head in puzzled bewilderment. It is a rare season indeed that does not bring at least one such picture to my desk. While I have not had the pleasure of meeting the model in real life and learning at first hand the secret of his success I rather suspect that the picture contains a large amount of what has been called artistic license. Having had more than a score of years of intimate experience with rural youth I feel confident that the artist has somehow overstepped the bounds of truth. Yet it is possible that the boy might have one important point of superiority over the casual seeker of trout that would give him or any angler possessing such knowledge a decided advantage. That advantage would spring from a practical working knowledge of trout feeding habits and preferred habitat.

The ability to read the water, judge the type of lure that will be acceptable and serve it to his majesty with due respect for his whims and fancies can only be acquired after long years of experience. The most skillful angler will do better work on the streams that he fishes regularly. This is particularly true when trout respond to a dry fly when a hatch is not in evidence and the surface of the stream appears dead.

An incident that happened many years ago proves this point particularly well. Al and I fished a certain stream on an average of once a week all through the season. A visiting expert was introduced to our stream and given what we considered the very best location. To be sure that he would have sport we each contributed a pair of pet drys and confidently expected him to have the time of his life. Al took a strip of water a quarter mile above while I walked at least a half mile below to allow our mutual friend as much undisturbed water as possible. I had a good evening and kept five fine trout while returning at least a dozen others to the water. When I returned to the car at dusk Al had six that were as good or better than mine and reported strikes at almost every pool. A half hour later our expert friend came straggling back to the car with a single fish and reported only four rises. I have a suspicion that he believes to this day that his part in the expedition smacked considerably of the proverbial "Snip Hunt." A few weeks later on one of his pet streams he showed us a mastery of stream craft that was a pleasure to witness. It pays to know your stream!

The lie of the trout changes with the season and the prevailing types of food and their abundance.

In early season trout seem to prefer the deeper and more quiet waters where some sort of barrier breaks the force of the current and at the same time brings quantities of food drifting almost into their mouths. This is the time the slow drifting live bait makes a killing. It is also a natural for heavy built wets or nymphs. My favored spots during this season are the mid-stream rocks in about two feet of water. Cases of the caddis fly drift into such eddies to the rear of these barriers and furnish the bulk of the trout food.

The catch at this bottom grubbing period are almost sure to have the skin of their noses rubbed very thin from rooting among the stones in their search for food. Trout feed most actively during the middle of the day when water temperatures reach their maximum. My favorite lures for this type of fishing are a hard backed nymph and a March Brown wet with a wide gold tinsel ribbing.

As the water clears and falls slightly the trout become more active. They move more rapidly when taking food and may be found hugging the edges of the fast water and sloshing

away at anything that resembles foo within the range of their vision. Thi is wet fly season. The dry tempts fev risers but the wet drifting along jus under the surface finds ready takers

Every stream has good trout lies tha are recognized by every angler work ing the stream. As a result they ar continually pounded to the extent tha they soon fail to produce. The exper will seek bits of trout cover hidde away in the secluded portions of th stream or fish the difficult spots tha are passed up by the less persisten angler. Many a fine trout has bee snaked from underneath the overhang ing brush, by an angler who used th necessary time and patience to plac a fly in exactly the right spot.

Both brook and brown trout fee more comfortable with something be tween their backs and the sky. Over hanging tree branches, logs, grass root are hot spots. I have found them lyin in the entrance of muskrat burrow and from such retreats flashing out t snatch any tidbit that struck thei fancy.

Last season in making some pre season checks on a nearby strear brought an interesting observation. W were resting in the sunshine at th head of a broken logging dam. Th shallows were covered with an inch c clear ice while the main channel wa unfrozen. From the aquatic vegeta tion below the ice dozens of caddis fl twisted their cases to the surface an worked along the underside. From th drift wood stranded along the strear channel came a trout. He seized th nearest caddis larva and returned t his hid. In a few minutes he cam again followed by several others. In few minutes there were fourteen trou from six to twelve inches cruising th shallows and feeding actively belo the ice. The air was keen and in spit of our woolen hunting clothes we shiv ered as we sat for over an hour build ing up an acute case of trout feve Trout do feed on available food an even cruise to find it when the water i very cold.

As soon as minnows can be observe working the shallows of your favorit stream it is a safe bet that trout wi either rise to a surface fly or respon to a lure just under the surface. A this season of the year trout probabl respond with more enthusiasm than a any other time. They probably take wider variety of lures and are less dis turbed by careless technique than late in the season. The tempo of feedin seems to increase to the climax of th heavy hatches of early June. After th "Duffers Fortnight" trout becom more selective both as to food an feeding time. As the water warm they feed more and more in earl

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E. H. Peckinpaugh

By E. A. ANDREWS

n a world where so many people mplain about their being dismal mis- in their jobs it is refreshing to find occasional genius whose tempera- nt and talents dovetail his activities o both vocation and avocation with rmonizing results. Such an individ- l is Ernest H. Peckinpaugh.

He is definitely a NATURAL—but natural who makes ARTIFICIAL it. All veneer, plummage, color, fan- e, and make-believe are wholly out far as his personal ensemble is con- rned, but it is with these intriguing operties that he deftly animates his oducts until they almost, but not ite, speak for themselves. That is all ey lack—the power of articulate eech.

Articulate speech, please remember. ey create noises, all right, whenever takes that to impart realism. "Lures at Catch Fish" have made E. H. ckinpaugh, of Chattanooga, famous.

No wonder he holds a commanding ace in his sort of fantastic realm ere fairy-like commodities are con- ved. He makes them as they are in al life, only, very often, more so. eck" paints the lily. The nature of n pulls and tugs to lug him away for g intervals back somewhere in the eat out-of-doors. There inspirations rt him off and he returns to the y and perfects his visions into ex- isite counterparts of lively creatures at have aroused his practical fancy. It esn't make much difference where goes. Gulf or ocean, majestic river, land lake or mountain stream—Peck at home. He makes it his special siness to get acquainted with the idget denizens of the various regions their homes, too, insects that make e finny tribes' mouths water.

His trips are not just the simple atter of stringing fish. More impor- nt is the job of studying how to rve the meals like nature did, with lifelikeness that will string the fish ong to get strung.

It would be hard to say when Peck in his most favorite element: when eathing the atmosphere of the beetles d bees and bugs out in the open or hen fashioning their bodies, wings, gs and hues in his factory. In either vironment he is as homespun as any- ing can be that is all wool and a rd wide. Physically robust he is odest and quiet and self effacing; himsically serious and genuinely thorough; a little on the order of a fellow that you think is dreaming—until you suddenly wake up to the fact that you were asleep yourself when you thought so.

And with what apparent abandon and mild procedure he goes about things! The sea of life would not be very choppy and murky if giant affairs were left to Peck. He regards matters like he figures fish look at bait: They have got to be mighty arresting to be worth getting excited over.

Well, that's the kind of lures Peck makes—arresting and exciting ones. They have riveted the attention of big town national periodicals. The big fellows in the publication world go for his gorgeous flies and brilliant doo dads and they reproduce them in beautiful four-color printings that float out to millions of readers.

You may call such favorable publicity "getting the breaks" if you want to, but Peck has earned them. Not saying, of course that he hasn't enjoyed the hard and slippery up-stream wade of a business career.

Peck got the "bug" when he was a kid. Just as the joke books tell of school boys who have uncles to bury when the ball teams are in town so it was that Peck's uncles had a habit of kicking off when the wind was in the south and it was good luck to throw the bait at the fish's mouth.

There were giants (of wealth) in those days who occasionally fished with some gaudy gadget known as artificial tackle. They were few and far between. And it came to pass that a rich man passed that way one day and the way was right past where young Peckinbaugh was drowsily fishing from the bank of a lazy stream.

E. H. Peckinpaugh

The boy's equipment consisted of the traditional arsenal of a crooked stick for a pole, et cetera. He was using live grasshoppers that "spit tobacco juice" when they were impaled on the assembling line, which of course, was a bent pin.

The man was doing *his* fishing, not with mirrors, but in a manner just as bewildering. He was using a glossy, bespangled contraption that jerked and darted as it splashed through the water. It made the lad's eyes bulge. It was so pretty that he almost wished he was a fish so he could strike at it and have it for his own.

The two scraped an acquaintance and the man was finally persuaded to swap one of his lures for an earful of Peck's enthusiasm for fishing.

That was the genesis of all that followed. From then on it was twist and tie, trial and error, experiment and research. The youngster came on through the years spending all the time he could spare putting the alure in lures.

He is still doing it. His skill and creative talents are continually bringing out a new species to add to the already quite endless parade of Peck's pesky lures that catch fish. These are hand-made, and once he has perfected the pattern he teaches the tricks of processing to his capable organization.

His own desk does not remind one very much of an executive's. It looks more like a woefully littered-up bench of a "jack of all trades and a master of one."

There is one thing that Peck had rather do than fish for fish. It is to angle around in that rich reservoir of his own fancy and have a whale of an idea strike. He pulls it in and examines it critically. If it's no good he throws it back. If it is worth while he fondles it, tames it, develops it, bestows glittering raiment upon it, and breathes everything into it except circulation of the blood.

Peck's pet word is "procrastination." He scolds himself a good deal about procrastinating so much. He feels that he ought to get more done, have more system, and make things click with more precision. But his wide patronage is pretty well satisfied. There is something about a lot of his lures that fish rise to when they would otherwise remain in a simmering state.

That word simmering should be good in this place. . . . So many of Peck's ideas—come simmering-like.

Weeds or Fish

By DON BLAIR

It may seem a far cry from a vigorous stand of hybrid corn to a small fish pond; but a comparison is possible, and I think we ought to consider it.

In the first place, corn just don't "grow." A good crop is the end result of careful planning, choice of seed, soil preparation, fertilization, cultivation, weed control, sun, sweat, and prayer. Some of the best brains in America are dedicated to growing corn. And from the 15 or 20 bushels of grandfather's time to present bumper crops has been a tremendous stride in "know-how." Bear well in mind the men responsible are by no means satisfied. Their goal is 300 bushels to the acre. It all depends on the knowledge born of experience, and the will to keep trying.

I do not mean to say that our thinking on the subject of small fish ponds has been entirely stalled in the ruts of horse and buggy days. We have made some gains in knowledge. We have had it shown that fertilization will substantially increase a fish crop. That weeds are as detrimental to good fishing as they are detrimental to good corn production is, I think, elemental. But have we investigated fully such angles as choice of seed, cultivation, crop rotation cycles, hybrid vigor, and possibly other items connected with small pond fish growth?

Take the case of beavers, and beaver ponds and native brook trout, for instance. Beavers have shown us here in Pennsylvania that vigorous fish growth gains are possible in newly made ponds. With good water, the average small beaver pond may supply upwards of 100 pounds of trout per year for several years. Then the catch tapers off, and at the same time fishing down brook becomes progressively poorer. A brook that apparently contained only native trout begins to show a substantial population of suckers and various minnows. I maintain the beavers are only trying to show us that the same or similar things happen to fish crops as happen on a farm when the same land is planted to the same crop season after season.

Farmers rotate their crops. They know that one crop takes nitrogen from the soil while another crop can replace it. They know that some crops are host to certain diseases while others are immune. They know that some crops compact the soil while others loosen and areate it. With their knowledge they are able to not only maintain but to continually improve the productivity of their lands. What do we know, for instance, of the possibilities of crop rotation in fish ponds?

I wrote in these columns, last year, of the placing of rainbow trout fingerlings in an old beaver pond containing a waning population of brook trout. I told how these rainbow trout grew vigorously. They are still growing. Could this be a sort of waterborne adaptation of crop rotation? Many, many tests of this kind will be needed before the effects can be evaluated.

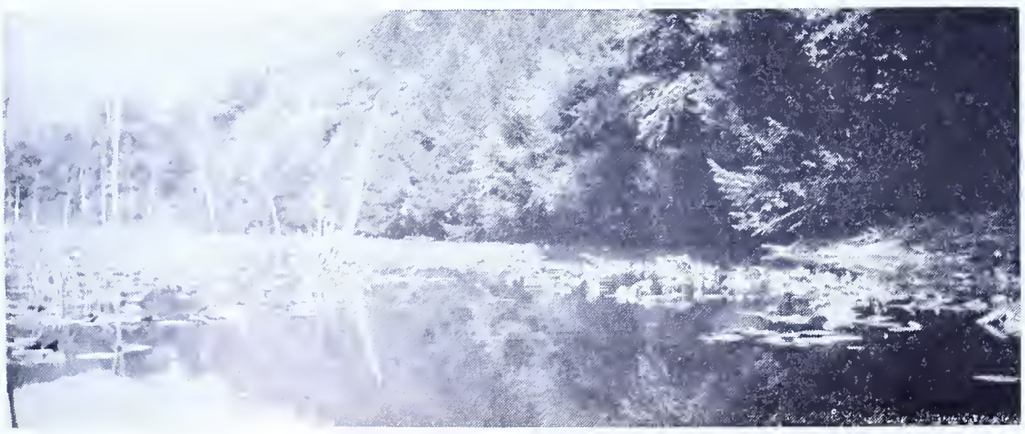
In a bass-bream pond crappies were added several years ago. The bass and sunfish crop goes on about as usual, the crappies live but just don't grow. Evidently this combination is not quite right. What would happen if the bass-bream pond were drained and perch and crappies substituted? Or a combination of carp and Great Northern Pike? Or suppose the pond wer drained and allowed to lie fallow fo a year? Or that in the case of one o the many farm ponds now being buil in our state, it be drained periodicall every three or five years and plowe and planted to onions or celery or som such muckland crop? What effec would this sort of rotation have o the long time productivity of the wate basin?

To these and many other question we just don't know the best answer I believe that in the interests of futur fishing we ought, all of us, to make sustained effort to know more abou fish life in controlled ponds.

I know that to many ANGLER reader the ultimate thrill of fresh water fish ing is to wade a clear cold mountai trout stream, but I also know we hav many thousands of fishermen (an women) who prefer still water. Som miles downstream from Emporium saw fishermen who ignored trou jumping in the Sinnemahoning, wade it, and climbed the railroad embank ment in order to fish a small pon hidden there. There is a measure o peace and contentment to be found i such fishing. It is entirely apart fro the rush and tumble of a trout strea that leads you on, and on, and on.

Particularly I would like these qui anglers, as they fish, to consider th corn field of which I spoke. If it we full of weeds, untended, there woul be little corn to call a crop. Clean o the weeds, let the sunshine in, an you will catch more and bigger fis from your pond. I guarantee it. I the valley of the Sinnemahoning an up the Bennett Branch several suc weed choked ponds exist. The annu weight of fishes, and the size of i dividuals caught therein will increas in direct ratio to the energy spent i cleaning out the weeds.

It could be the flashing green an gold of a bigmouth bass is reminisce of the green and gold of luxuria corn. I suppose it is. But of one thin any fisherman can be sure—the e ploding strike of a big bass is amp reward for many hours of choppin spatterdocks. That I also guarantee.



PENNSYLVANIA REPTILES & AMPHIBIANS

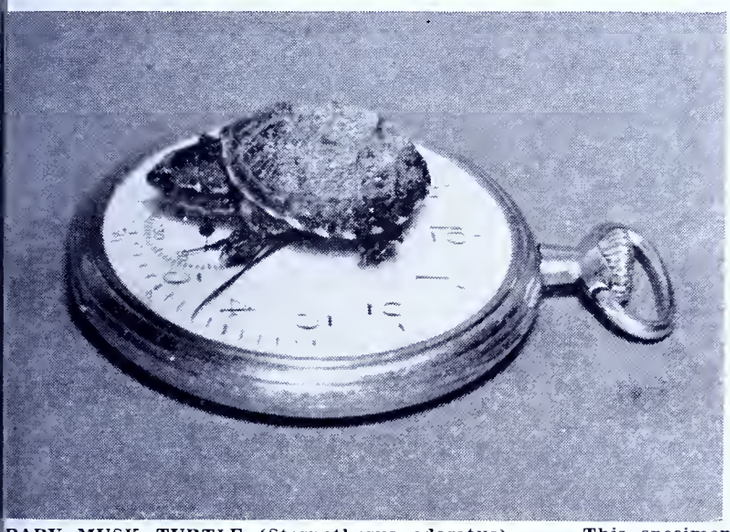
A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. . . . 10 . . . Baby Turtles

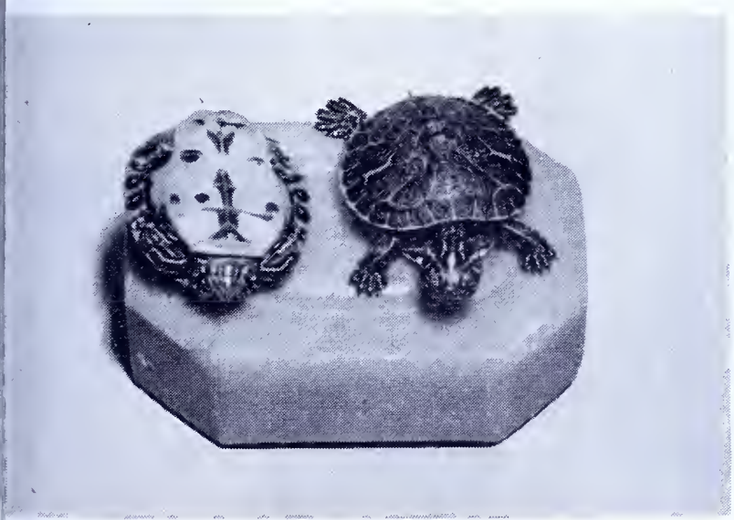
BABY PAINTED TURTLE (Chrysemys picta marginata) . . . brightly lored as are the adults longitudinal blotch on the plastron (bottom ell) is darker than it is in the adult often collected as a pet, but be- use of improper care, few survive and fewer mature; provide both ter and landing space in the aquarium for baby turtles; feed finely opped raw meat or raw fish and to this add a few drops of cod liver and a pinch of bone meal; feed lettuce frequently.

BABY BOX TURTLE (Terrapene carolina carolina) . . . Resembles adult in shape and general appearance but is not conspicuously marked like the adult; head largely or entirely lacks yellow or orange markings of older specimens carapace (upper shell) of the hatchling is more nearly round than in the adult; has prominent median keel on carapace; ideal temperatures in which to keep pet turtles are between 75 and 80 degrees, with frequent, brief exposure to sunlight desirable.

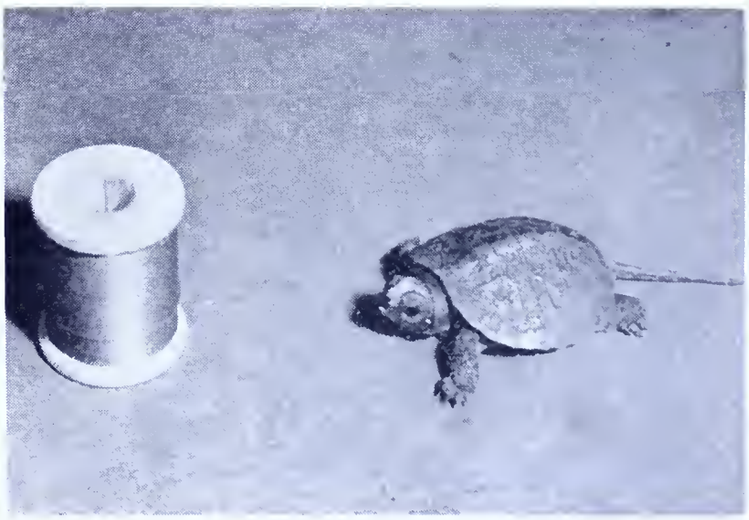


BABY MUSK TURTLE (Sternotherus odoratus) . . . This specimen as collected in the marshes at Conneaut Lake and an idea of its small ze is given by comparing with the pocket watch; in young musk rtles the lobes of the plastron are rigid, whereas in the adult the ont lobe is freely movable and the rear one slightly so; highly arched rapace of young is nearly as wide as long and has three keels; makes nice pet but is not usually collected because of its strong odor, bad mperament and ungainly appearance.

BABY SPINY SOFT-SHELLED TURTLE (Amyda spinifera spinifera) . . . More brightly adorned than the adults, but very similar in shape and appearance; adult males often retain juvenile spots but adult females usually become mottled brown or olive; tubular spines along the anterior border of the carapace not as large in the young as in the adult; young are very lively and make attractive pets; completely aquatic and should be within reach of water at all times.



BABY RED-BELLIED TURTLES (Pseudemys rubriventris rubriventris) . . For size comparison, the two babies pictured are on a bar of ifebuoy soap; this species is often sold in dime stories as pets; peel f paint from shell of purchased individuals as this usually causes eformation and arrests growth; lives well in captivity, becomes very me and is fond of fish, earthworms, tadpoles, snails and water plants; od is preferred in water, not on land.



BABY WOOD TURTLE (Clemmys insculpta) . . . In newly hatched young, tail is almost as long as the carapace; the sculptured appearance on the shell of the adult develops through growth and is not present in the young; highly recommended as a pet; often shy when first confined, but with patience may be made quite tame even to eating from one's hand; entirely harmless; feed turtles as much as they will consume at one time; often lose appetite in winter; feed daily when hungry.

THOSE MARYLAND SHAD

By BOB MOOG

Mention of the word shad to most Pennsylvanians will generally stir up thoughts of some vague, ocean-run species of fish, but not so with the old-timers who, in all probability, remember the far-distant shad spawning runs that once took place in the Susquehanna River and reached to the New York border. Construction of the towering Conowingo Dam in Maryland not only brought these annual migratory runs to an inglorious conclusion but further served to disfranchise younger generation Keystoners from a sport that is rapidly providing topside entertainment for thousands. Substantiation of such a statement becomes apparent when one catches his first shad, a wildly-leaping, surging, hit and run type of fish whose remarkable fighting qualities are exceeded only by its "piece de resistance" reputation on the table. Seasoned shad fishermen, in fact, will explain that the sport is concerned more with the techniques of landing fish rather than a scientific search and study since the fish are abundant and strike readily.

Shad are anadromous fishes, being sea-run and returning annually to the fresh-water rivers for spawning. The run is determined entirely by climatic conditions and while the State of Maryland has adjudged March 15 to June 20 to be the legal open season for the taking of shad in non-tidal waters this cannot always be used as an index, since the warmer temperatures are not always present on March 15. Regardless of timing, the shad arrive in considerable numbers, in fact the supply seems limitless. The hickories precede the whites and run generally up to three pounds. The white shad run as high as eight pounds, but seem reluctant to travel the smaller streams in contrast to the hickories.

Fortunately shad are susceptible to artificial lures, making the use of bait infrequent and rather unsuccessful. Quill minnows, small trolling spoons and streamer flies are the lures to use along with either a flyrod, casting rod or spinning gear. Since the lures must

More Hickories.

Scene on the Octararo.

be fished deeply, sinkers must be attached to all lures, and this makes flyrod fishing a little difficult. More lead than necessary to sink the lure is required when using a casting rod to provide sufficient casting weight and the situation ultimately reduces itself to a paradise for spinning enthusiasts. A flyrod is not an impossibility, however, and the angler should stick to a heavy grilse, salmon or bass-bug rod to obtain the longer distances that are so preferable in this type of fishing.

Quill minnows are excellent; on a recent two-day trip so many shad were taken on a quill that both eyes were out, the paint completely chipped off and finally the barb of the hook broken. Landing fish, as a matter of fact, became quite tiring, and it was a question of whether the angler or the lure would last the longer. It is to be emphasized that the fishing is not always this good, but times definitely crop up when the shad are willing to hit practically anything in the water.

Small trolling spoons (size 00) are good and so are the ever-popular streamer flies. Surprisingly enough the Black Ghost stands up well, but since the alewife minnows top the shad's diet the following patterns designed to simulate this minnow are recommended:

1. *Body*—Tapered and with silver tinsel. *Beard and Tail*—Red hackle fibres. *Head*—Red with painted black and white eye.
2. *Body*—White chennille with spiral silver tinsel. *Tail*—Amherst Pheasant tippets. *Wing*—White hackles or two white hackles flanking two Silver Doctor Blue hackles. *Throat*—White hackle fibres. *Shoulder*—Golden Pheasant tippets (this is optional). *Head*—White with painted black and white eye.

Both patterns should be weighted, *i.e.* tied with ribbon lead wound spirally on the hook shank before the body material is tied on. Hooks should be either a size No. 8 or No. 10 with a long shank, up to 6X if obtainable.

The lures should be fished deepl and slowly on the end of a light leade Hickories are leader-shy and it is bes to get down to either two or thre pound tippets. The larger whites o the other hand stay down among th rocks and the angler must use a six o eight pound leader to prevent cuttin on the rocks. Best results are obtaine by casting across stream and down an retrieved with a series of short jerks Pools are preferable but the riffles an back-waters should not be overlooke Shad are readily observed in larg numbers milling about in the pools an the angler must learn to fish the lur slowly through these fish. The sha will hit hard, amazingly hard, and wi always flash on a lure in much th same manner as trout. Once hooke they will invariably lunge upstream i a series of wild, strong surges and f nally engage in a series of wild, un believable leaps that often result in cleanly thrown hook.

Wading is permissible but treach erous. The majority of anglers wor from the shore with good result Trolling is occasionally attempted an works well on the whites. It is not im perative but desirable. Trolling can b either upstream or down over the pool and should be slow and steady.

The angler who formulates definit opinions and theories relative to sha is penalizing himself in much the sam manner as those who do the same wit trout. The fish are highly unpredic able. At times only a yellow streame will work (although white is still re ommended) and on other occasion orange is the only fish-taker. Man times the angler will take so man shad that he becomes tired, yet the si uation is sometimes reversed and th shad become highly inactive. In ge eral the angler can normally expe not to be "skunked."

Pennsylvanians desirous of partic pating in this great and ever-growin sport should take particular heed

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Another view of the Octararo just below t bridge.

BAMBOO FISHING RODS

By GENE CRAIGHEAD

With the increasing popularity of the me construction of split bamboo rods Pennsylvania fishermen, it seems propriate to give some information this very unusual plant, the bam- o: differing from our familiar grasses having woody stems. Of all the ants on the earth, the grasses mono- tyledons, are of the greatest use to e human race. To these belong the reals, sugar cane, sorghum, and the mboos, which are used extensively the industrial arts. The bamboos, e largest of the grasses are of vast portance in the Indo-Malay region, d to somewhat lesser degree in the nited States. They are used in build- g houses, bridges, floors, walls, rafts, ater pipes, golf clubs, ski poles, fur- ture, paper and fishing rods. The nder shoots of some species are a oice vegetable.

The bulk of China's paper require- ents has been supplied, for hundreds years, by hand-dipped bamboo pulp. aper is being made by machine, on a mmercial scale from bamboo pulp. here are between 600-700 described ecies of bamboo, yet to the fisherman ere is one genus and specie that is of eat importance; namely *Arundinaria nabilis;* Tonkin or Tsinglee cane.

Arundinaria amabilis was only re- ently introduced from China, as living ants. Since introduction, its culms ave been most highly satisfactory and most universally used source of ma- rial for split bamboo fishing rods.

Tonkin or Tsinglee cane is grown in e Waichap District of Indo China. he culms or canes are usually owded into dense clumps where some f them attain a height of 40 to 50 feet. he cane grows best on hillsides where can be cultivated.

The type of soil has a lot to do with e quality of Tonkin Cane. When the ane is cut at the butt another cane omes from the same root. It takes bout eight years for a 2″ diameter onkin sprout to grow to a point where can be used again. The smaller di- meters grow more quickly and the 4″ diameter stick can be used within wo to three years. The bamboo grown n marshes is very porous and pithy, nd is not suitable for making bamboo shing rods. The best cane should be nick walled, as the strength of the ane lies in the outer edge of the wall. he fibro-vascular bundles in Tonkin ane are exceedingly close and dark at he outer edge.

When Tonkin cane is cut, it is rought down to the Fathan district reen, placed in fields and is left for a nonth or two where it dries out in the un. Before it is completely dried out it is taken into warehouses, straight- ened and sorted as to size and quality. All split and imperfect sticks are elimi- nated. The cast off canes are used for many other purposes.

The propagation of bamboos is by division of the underground parts; usually the culms are cut a foot or two above ground and should include the second or third node. The remaining stump is separated from the parent clump, removed from the ground and planted in a new site. Another method is by layering or burying live culms to a depth of about six or eight inches. New shoots will develop at the nodes in several weeks. Propagation by seed is probably the most ideal way, but the seed deteriorates very quickly and in some species flowering takes place only at intervals of 20 to 80 years. The seed resemble our common oat.

After working with Tonkin cane, I was interested in talking with some one that had been to the country where it was grown, so I visited Charles H. Demarest, Water and Beek- man Streets, New York City, who has been an importer of Tonkin bamboo since 1895. He has bamboo from all parts of the world. His first trip to China was in 1934, and he has been there three times since. At the present time it would be impossible for him to go up-country because of the Commu- nistic cut-off from Canton.

Studies on culture of bamboo were started in 1934 by the United States Department of Agriculture in Porto Rico. At that time they had about 10 species, but at the present time 30 species are grown.

Displaying a wall-eyed pike is Edward Delaney of Yardley, Pa. The pike was taken on live bait and measured 29½″ long and weighed 8¾ lbs.

There are two general types of bam- boo, the running or the clump. The running type have a single foot or rhizome which grows in a horizontal position underground. Often the stem and roots of bamboo will extend for 25 or more feet depending on the species, the nature of the soil, and the care that is given after the planting has been made. In the United States some of the hardier species will stand a tem- perature of 16-20°F.

The clump type of bamboo develops rhizomes which grow for a short dis- tance horizontally and then grow up- ward and form culms, which is nothing more than an enlarged stem of grass. The clump type does not spread rap- idly like the running type.

Under favorable growing conditions culms will reach heights of 60 to 70 feet with basal diameters up to four or five inches and this growth takes place in from 60 to 90 days. Growths have been recorded of nearly 36 inches in 24 hours. The diometer of any culm when six inches high is as great as when fully grown. These culms are thick walled and are very easily split, especially after they have been prop- erly seasoned. The arrangement of the fibro vascular bundles and the season- ing of the cane has everything to do with making good split bamboo rods. The denser and more closely knit these bundles are the finer the quality of cane. Rod builders speak of this area as the enamel, or fiber density. Culms are not mature in hardness of wood until the end of the second or third year, and should never be cut for fish- ing rods before that age is attained. Often a five-year period is reached be- fore any cutting is done in a young grove. Culms usually live for five to 12 years, with no increase in height or diameter. All culms should be marked, and by this means the proper time for harvesting is known. Thinning is prac- ticed to prevent crowding and to per- mit enough sunlight to burn the sur- face of the culms. Proper curing makes them more resistant to insect injuries, especially the powder-post beetle.

Some small manufacturers used Tonkin cane prior to 1895, but not until that time did larger manufacturers start using it. Before Tonkin cane was used for fishing rods, many imported hard woods were used such as Calcutta cane from India, while Dagama, Lance

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CROAKY!

By RICHARD S. BOND

"That's 'damcold' water!"

There's nothing unusual in a claim like this. One hears it in the shower, at the shore, anywhere.

But the statement is unusual when you are alone, at ten o'clock on a dark night, engaged in the prosaic task of reaching into a delapidated fish tank for the day's catch.

At least Gus Spludge found it unusual enough to snatch his groping fingers from a clammy mass of porgies and croakers as though he had inadvertently touched the release button of an atomic bomb.

"Who said that?"

"I said it—and it's true!"

Gus bent over the icebox on the running board of his car and peered intently into the depths.

There were a few small pieces of ice—most of it had melted on the trip from the shore. There were at least forty nice looking fish—for the catch had been a good one. And there was considerable water as a result of melting ice and a plugged vent. Apparently that was all.

"I'm here too" sounded an angry voice from the tank "and the water is still damp cold."

"A ventriloquist" growled Gus, looking up and down the road.

"A croaker, you sap" said the voice. "A fisherman should know a croaker from a ventriloquist—whatever that is. Personally I've never been swimming with one. I'm a croaker—a member of the drum family."

" "So you're a croaker, are you? And you're swimming around in my fish box? And I'm the stenographic error responsible for your existence! Everything is now hunky dory!"

"Except the ice water. It's cold!"

"Running short of adjectives, aren't you Bub? That's more polite, at least."

"I'm telling you again, this water's cold! There are icicles on my tail! Look!"

Something flopped around in the water and smacked the side of the tank strenuously.

"Now my tail's broken! Get me out of here, Bub. These corpses have me in a dither. Take me out, won't you, and put me in some nice sea water."

"Sea water away up here in the mountains! Do I make it or do I pray for it?"

"Put me in the tank you brought back for your scrawney little sea horses. That's good sea water!"

That clinched things. No ventriloquist or practical joker could have known about that container of salt water, for Gus had been a lone wolf on his trip.

"You called the turn, Croaky!" he grunted, and bending over the tank he started pawing among the fish.

"Now you have me! Now you don't! Butter fingers! Here! I'll help myself!"

And he did—by none too gently fastening his teeth in Gus's favorite thumb and coaking grimly as he was jerked from the tank and deposited on the running board.

"Now for the salt water!"

The amazed Gus lifted the top from his sea-horse tank and dropped a wriggling fish.

"That's better! How about a few clams—without any hooks or fancy stuff? I could stand a little nourishment after that Aleutian experience. Shoot the clams!"

Obediently Gus prepared the clams for his new friend.

That's how the whole thing started. It's screwy. It couldn't happen. Speakers can croak but croakers can't speak. It just isn't being done.

A good night's sleep bolstered Gus up so that he realized this. He grinned sheepishly next morning as he wen to his garage and lifted the lid off his tank. There wouldn't be anything bu good salt water! But what a dream!

"Good morning Bub! How's the tide?"

"You!" gasped Gus. "Then you're not a nightmare?"

"I might have been a little colt las night and a trifle hoarse this morning but I'm still a croaker! That's a joke son!"

"Yes! That's a joke! And now tha I'm laughing myself nuts, what's going to happen to us?"

"Dig up a few clams and see that get fresh sea water and I'll be all right Oh yes! Next time you go fishing you might bring back a couple nice sh croakers. It's kinda lonesome in here After all I'm not a dummy."

And that's how things went for th next two weeks. Gus supplied clam and sea water to Croaky—hoping eac morning to wake up and find the whol thing a dream.

He didn't dare tell his friends—no even Louise, his wife. Ten to one th croaker wouldn't show off before com pany and he'd find himself in the cold pack ward at the local nut storage. S he continued his job as nursemaid t a talking fish in absolute secrecy.

However, Louise got suspicious c daily trips to the shore with nothin but clams and sea water resulting The Waves, she knew, were now i civilian clothes but there were alway waves at the shore. And those mornin trips to the garage were unusual to Louise decided to investigate.

That's why she was crouched in th back seat of the car very early on morning. She remained motionless a Gus lifted the tank top and whistle softly.

"Pipe down you wolf" waile Croaky, threshing around playfully "Your 60% is hiding in the scuppers.

"My 60%?"

"Yea! Your better half. She's stowe away in the back of your cruiser."

Gus opened the door and foun Louise really stowed away—dead t the world. It took ten minutes and quart of ice water to revive her.

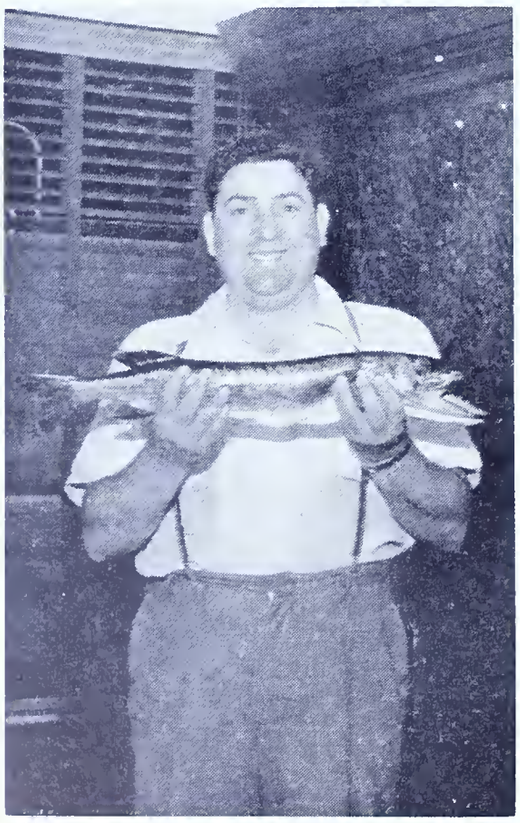
"That fish! He spoke to you! I hear him! I'm going nutty! Get me out here! I'm crazy."

"You and me too! You're only a amateur. I've been crazy for tw weeks—ever since Croaky adopted m You heard him, didn't you? It's n me, Louise! Say it's not me!"

And then, while Croaky gleeful guzzled a handful of yesterday's clam Gus told the whole story.

"The darn thing is human" he co cluded. "We can't eat him or kill hi or let him starve. He's human. H even wants a couple of wives."

"That's what I was afraid you we



Tony Augustine of Mt. Carmel proudly displays a chain pickerel measuring 27" and weighing 4½ lbs. Tony caught this fine fish at Beaver Lake using the flatfish plug as the lure.

er" acknowledged Louise, "and I n't know but what this is worse. u've done a lot of fool things in your e, Gus, but now you're an adopted her to a fish—and that takes the ke. Yes, you're father to a fish."

"By the name of Croaky" spluttered clam-filled mouth from the tank. m entitled to my name, you know. b gave it to me. Let's all make some oney for you! How about it?"

"Sounds like double talk" opined s.

But Louise sat staring into the ozone.

"A talking fish could be an asset if refully handled" she remarked ftly. The Siamese twins and the onne quads, or quints, or whatever ey are, didn't do so bad for Barnum d Papa Dionne, so why can't a talk- fish set little Louise and Papa Gus their feet? After all, it's harder to oduce a talking fish than a quin- plet."

"You've got something there, sister. e talking croakers are mighty scarce. fact, outside of mermaids and me, never heard of a talking fish. And ose mermaids! They are just too terly utter—if you get what I mean. y the way Boss, where's that harem u promised me?"

"Forget it" hushed Louise. "I'm inking of the wonders of a talking h."

"Oh, you girls all take me too seri- sly" gushed Croaky. "You don't pay y attention to the murmuring pines d hemlocks or to the whispering eezes, but you think a talking fish super duper. What's those pines and eezes got that we croakers haven't? hat do you say Bub?"

"I wish you'd quit calling me 'Bub' " utioned Gus. "I don't like it and it's t my name."

"You called *me* 'Bub' first" reasoned roaky "and I like it. It's the first half 'bubble'."

"Bubble?"

"Sure! All fish can bubble but I'm e only one that can say 'Bub' and en stop. It puts me in a class by my- lf. I like the name."

"Skip your nonsense" Louise broke . "I'm still figuring out the ways d means."

"I'll bet you a female croaker you'll ecide on the meanest ways. How out some more clams? This is a ecial day for me. I now have an dopted mother."

Gus tossed another handful of clams to the tank and went into a huddle ith his wife.

May and June slipped away and Gus nd Louise could not get their brains click.

Yes! They thought of exhibiting roaky; selling him to an aquarium; illing themselves in the theatres or etting an agent and touring the country on their own. But they had to consider sea water, clams and the possibility of Croaky becoming temperamental on them. People in their circumstances could not take chances. Croaky continued to swim around his tank, eat clams and bemoan the lack of those desired females.

"How would you like to take a trip to the shore" Gus asked one evening—July the 16th it was.

"A good swim in the old pond would feel good, Boss."

"O. K. Tomorrow's the day."

"Might as well catch a few fish" he reasoned, as early next morning he sat in his rowboat much too far from land for comfort, but in a spot that usually produced fish.

As a matter of fact it was the spot where Croaky had been hooked—and he recognized it at once.

"Drop me over for a swim!"

"Sure you'll come back?"

"Of course! I've got a good home with you boss. No sharks, no sea turtles, nothing but luscious clams, pre-cracked. Why wouldn't I come back?"

Probably Gus was a nut to take a chance but for some reason or other he had become greatly attached to that educated fish and felt he was entitled to a real swim. What if he didn't come back? He couldn't figure out what to do with him anyway!

Jack L. Carlberg of Oakmont and the exceptionally large wall-eyed pike caught by him in the Allegheny River. The fish which measured 33" long, weighed 13 lbs., 12 ozs., and had a girth of 18½". The lunker was taken with a Shakespear Midget Spinner on September 11, 1949 from a section known as Rockmere Eddy about seven miles above Oil City. The Pennsylvania Angler congratulates Mr. Carlberg.

Croaky darted around the boat a dozen times, took a nose dive after a Cape May Goodie, leaped in the air to shout 'Fine!' and apparently enjoyed himself immensely, while Gus proceeded to catch himself a few non-talking fish that would make good eating.

Apparently Croaky never left the immediate vicinity, for each five or ten minutes he'd appear off port or starboard, shout a friendly greeting and disappear again.

About noon a party fishing boat cast anchor fifty yards away. The Captain watched Gus reel in a couple of beauties and ordered his patrons to "start fishing."

"Ship Ahoy!"

The cry startled Gus. It also startled the Captain who took his pipe from his mouth and stared into the water between the boats.

"Ship Ahoy!"

"What's the idea, landlubber?" bellowed the old salt. "Throwing your voice?"

"It's Croaky!"

"Sure it is, but what's the idea?"

"I don't mean my voice is croaky! I mean it's Croaky's voice!"

"Say that again!"

"Croaky's my talking fish. He's down to the sea for a swim. There he is now."

And right under the Captain's nose, Croaky leaped from the water and shouted.

"Ship Ahoy!"

"Santified seaweed" gurgled the old salt. "Now I've seen everything. It's time to retire—and fast."

"It's only Croaky. He wouldn't hurt anything bigger than a clam" Gus argued. "He's my tame, talking fish. Come here Croaky!"

"Too many hooks floating over your way Boss" he carrolled. "I'll swim around and come up on your port side. Get your landing net ready."

But the captain and half a dozen fishermen had already grabbed landing nets and were digging frantically into the water. There was a fish that *should* be caught. He actually talked. Every man had heard him. What a fish—and what a fish story for the folks at home!"

"Good-bye suckers!" greeted Croaky from fifty yards away. I swim deep, I do."

But Croaky's dare-deviltry got him in trouble. A brawny individual hooked the fish with a lucky cast and began reeling him in.

"That human Dracula's got me Boss. Do something can't you? This hook hurts."

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The Anti-Pollution Program Is Taking Shape

By WM. C. LANDAU

There is an important conservation problem, the restoration of which is essential in order to place us in a position to prove to the pollutors that once a stream is free of all pollution, nature again is able to supply us with plenty of good fishing.

There is scarcely enough natural food in our large streams today to equal the demand of food required for the small amount of fish we do have.

The origin or breeding of this natural food, or aquatic bait of all kind took place in our smallest of pure streams where the fish were unable to reach them and by their breeding places being located away from any disturbance has made it possible for them to multiply and by overcrowding, enough was continually being forced out to migrate into other waters where the fish could get them, also during each heavy rainfall the swollen streams would carry out an abundance of aquatic bait.

Years ago, we were able to see bait of all kind in our large streams before they were badly polluted. This does not indicate that this natural food could breed fast enough in the same waters that the large fish inhabit.

The source of natural food coming from the smaller streams alone made it possible to furnish enough food sufficient to feed the large amount of fish we once had.

We should be willing and anxious to work and fight to remedy the disgraceful pollution situation, although fish would not become plentiful simply by the stoppage of sewage and industrial waste entering the streams, as this would be impossible as long as nature is unable to furnish natural food for more fish.

The cost to clean up our streams will be considerable and there will be millions of dollars spent by the state and by the Federal government in the actual physical clean up. Another sum which would require many millions spent is installing municipal and industrial waste-disposal systems. Everyone hopes that the results will be worth the costs. Would we as a fishing public be willing to do our share to improve fishing conditions and give up the use of all bait that require disturbing the breeding places of aquatic life.

Considering the great increase of fishing public each year, there were far more fish taken out of our streams with hook and line years ago by the small percentage of fishing public not including the large number of fish caught with nets. When we were allowed to use nets of all kind in our streams it was a common sight to see one man using a casting net, catch more fish "considering the weight of fish" than all the fishing public could catch on hook and line within a radius of ten miles at the present time. These men were not interested in disturbing the breeding grounds of natural food in the shallow waters, and when the casting nets were raised out of the deep water, crawfish, which is valuable food for game fish could be seen dropping from the nets.

Crawfish, often called fresh water crabs, have their breeding spots or place of origin close to small springs among the stones in cool spots and by being located where the fish were unable to reach them had made it possible for them to breed and multiply and spread throughout all our larger streams.

Before the automobile age we were able to find out of the way places where crawfish of all sizes were abundant and by continuing to gather the largest to be used as bait, few ever got old enough to be of use for breeding and we now have the result of that which we in our carelessness have wrecked.

In order to supply enough crawfish that the amount taken by trout would not interfere with their migration to deeper waters, it would be necessary to place enough stones in the breeding beds of crawfish to take the place of stones removed during the quest of bait, and restock those spots with crawfish.

During trout season a great many chubs are caught full of spawn, we realize if the spawn from these chubs had been deposited in those streams they would have been of benefit to future conservation.

Chubs which always breed and were plentiful in our small, cool streams would venture out into deeper waters and it was a common sight to see a chub skipping along top of water with a bass in pursuit quite a distance from shore.

The grass in our small streams is a protection to the tiny fish or smal minnows and enable them to dar among the grass and escape thei enemy. This grass also harbors many kinds of tiny insects or nymph, valuable as food for the small fish.

Wild life of any kind including aquatic life cannot thrive when continually being disturbed.

I cannot agree with those who are in favor of prohibiting the use of al bait except artificial lures; while this might work out all right in smal streams such as trout streams and etc. there are too many people who if no allowed to use any aquatic bait woul refuse to get a fishing license, unles they are allowed to use worms, grass hoppers, and a large variety of othe bait in preference to artificial lures i our larger streams.

Now that the antipollution progran is taking shape it would pay us as fishing public to give our full suppor to any program the Fish Commissio recommends for restocking of natura food and the protection of their breed ing grounds.

I sincerely hope we succeed in find ing a way agreeable to all and allov nature to carry out the course of fur nishing enough natural food for large amount of fish before any of ou streams are free of all pollution i order to be able to convince the pol lutors that our claim was justified.

Mosquito Creek Sportsmen's Association Doing Grand Jo

Concrete evidence of what really can b done when the will to do roots itself in th minds of sportsmen. Witness the activities the Mosquito Creek Sportsmen's Associatio at Frenchville in Clearfield County. He full fledged cooperative activity is really its height when these determined fellows s out in expeditions throughout their area activate plans for the reclamation and im provement of fishing streams. Programs des ignating weekend expeditions really g something done with the initial attack cer tering on Corporation Dam, Walker Dam ar as far as the Shifter place. Kuhns Fields, si miles from Karthus and five miles fro Frenchville, road signs indicate this eag beaver activity.

Ralph Scott, secretary of the Frenchvil Organization, does not just confine this wo to members of the club but others intereste in the program are cordially invited to tal part. Paul Coudriet, president of the club, usually found in charge of the kitchen ar from reports everyone agrees that he ce tainly can cook. The program includes t construction of dams, deflectors, diversi breasts and bank improvement.

Among the members handling the affa are Tom McKinney of Patton; Clark Smit treasurer of the Clearfield County Feder tion; Les Ogden, Clearfield County Fi Warden, and Dave Oldani of the Pennsy vania Game Commission. The improvemen are made upon waters flowing over publ lands and in some cases have embraced much as 35 miles. Thirty-five miles of tro water where the only access is by wagon.

EXCERPTS OF THE MINUTES OF THE MEETING OF THE PENNSYLVANIA FISH COMMISSION HELD OCTOBER 14, 1949

INCREASE FOR WARDENS

In line with policy of the Commission, regular Fish Wardens were granted a merit increase.

RULES AND REGULATIONS GOVERNING THE OPERATION OF MOTOR BOATS

The same rules and regulations governing the operation of motor boats in inland waters of Pennsylvania were established for the year 1950. Copies are available by contacting the Pennsylvania Fish Commission at Harrisburg.

RULES AND REGULATIONS RELATIVE TO LIVE-BAIT

The rules and regulations which have been established by the Commission for the taking of live bait has been amended so that minnow traps with two openings can be used. This is in accordance with Act No. 4, which became effective September 1, 1949.

NURSERY WATERS

The following areas were closed as nursery waters:

LEHIGH COUNTY—Area formerly known as the Trexler Trout Hatchery, Allentown, Pa. Closed until August 1, 1953.

BEAVER COUNTY—Raccoon Park Lake, located on State Forest property. Closed until July 1, 1950.

WATERS WITHIN STATE FOREST AREAS

All waters within the State Forest Areas will be closed as nursery waters from November 30 to April 15 in connection with the cooperative plan which is being carried on by the Department of Forests and Waters and this Commission. The principal reason for these restrictions is to protect the fishing, particularly fishing through the ice during the winter months for pickerel, etc.

DINGELL BILL

The Commission put forth every effort insofar as Pennsylvania was concerned to have the Dingell Bill become a law. Letters were sent to the President, officials of the Federation, and secretary of the various clubs throughout the Commonwealth urging them to recommend the signing of the bill. The Commission has been advised that the President has vetoed the bill giving his reason that the ear-marking of Federal Tax revenue constitutes undesirable tax and fiscal policy.

REVOCATION OF LICENSES

The following fishing licenses were revoked for a period of one year.

1. Carl W. Lickenfelt, R. D. 2, New Florence, Pa.
2. Harvey R. Rabenstein, Six Mile Run, Pa.
3. Gilmore F. Evans, Wood, Pa.
4. Junior Franklin Baker, 13 Locust St., Duncannon, Pa.
5. George Wolosen, Route 3, Spartansburg, Pa.
6. Mike Diens, Watterman, Pa.
7. Albert R. Burkett, Watterman, Pa.
8. Elmer Dudgeon, R. D. 1, Belle Vernon, Pa.
9. Albert J. Batwinas, 104 Park Ave., East Orange, N. J.
10. John Kutch, 97 Eagle St., Brooklyn, N. Y.
11. Richard L. Peters, Reedsville, Pa.
12. Harry A. Taylor, Reedsville, Pa.
13. George Eckl, R. D. 1, Kersey, Pa.
14. Frank Stesney, 67 Hemlock St., Swoyersville, Pa.
15. John Stesney, 67 Hemlock St., Swoyersville, Pa.
16. Edward Stesney, 1 Spruce St., Swoyersville, Pa.
17. Louis Lamoreaux, 102 Bidlack St., Forty-Fort, Pa.
18. Robert E. Myers, R. D. 1, Duncannon, Pa.
19. Homer E. Fischer, Amaranth, Pa.

NYLON NETTING—LAKE ERIE

The Pennsylvania Fish Commission today took its first step to fight the threat of depletion of Lake Erie fish through the use of nylon netting by commercial fishermen. As of November 1, 1949, it prohibited the use of nylon in the taking of the smaller species of fish such as bluepike, perch, and herring and the regulation of the larger size mesh nets used in the production of whitefish.

It has been recognized for sometime by conservation officials and those engaged in the fishing industry that some restrictive action should be taken if the $12,000,000 industry on the Great Lakes was to be saved.

The step taken by the Pennsylvania Fish Commission in meeting this problem is the first positive action to be taken by any conservation officials and is expected to be followed by several other states bordering the Great Lakes and the Dominion of Canada.

This serious threat to one of the nation's greatest natural resources has been discussed at length in newspapers and conservation periodicals. United States Fish and Wildlife Service Conservation authorities in the various states, and fishermen and fish dealers have expressed grave concern regarding it.

The nylon net is a comparatively recent development. These nets have many times the fish catching capacity of the linen and cotton nets. The efficiency of this net has proven that dramatic steps must be taken if the fish resources of the Great Lakes are to be conserved.

The following regulations was adopted to become effective November 1, 1949:

That in accordance with Chapter 3, Article 3, Section 100 of the Act of May 2, 1925, P. L. 448, the use of small-mesh nylon netting in the waters of Lake Erie under the control of the State of Pennsylvania is hereby prohibited. It shall also be unlawful for anyone engaged in commercial fishing in Pennsylvania to have in the waters of Lake Erie more than twelve (12) boxes, (six (6) nets to a box) of big-mesh nylon netting per boat at any one time. It is further required said twelve (12) boxes to be lifted every day, except in extenuating circumstances where breakdown or severe weather prohibits craft from carrying on their daily assignments.

REQUIRED STUDY

(From Page 8)

morning and late evening. Look for them where falls and rapids pound oxygen into the water. This means either in broken pockets or where feeder streams bring in waters of a more comfortable temperature. Shallow waters near overhanging grass tufts are good bets during this part of the season. Many terrestrial as well as aquatic insects frequent such spots. Many a trout that has survived the barrage of lures during the early and mid-season has fallen to a dry fished at the edge of his grass ceilinged pocket. Evening hatches come with more or less regularity, but the big old bruiser turn to night feeders for the simple reason that food is more abundant less difficult to capture.

Wade a pebble bottomed shallows some dark night and turn a strong light on the bed of the stream. You will be amazed to find it literally alive with nymphs, minnows and all forms of bottom creepers. Occasionally you may pick out the form of a trout out gathering his supper in water so shallow that his dorsal fin is barely covered. During the day he will be safely tucked away in some obscure hide digesting the spoils of his night patrol and waiting patiently for darkness to come again. If you would capture him during daylight you must serve him a tempting lure so close that it will almost tickle his nose.

A late season method that many times produces good sport is to fish a streamer or bucktail of small size from dawn until sunrise over those deep, dark pools that are so dead during the evening rise. Every so often you may find one of the old veterans taking a bit of nourishment before retiring for the day. In many cases he will get free, but a scrap with such a worthy will give you food for thought for many moons. Another advantage of these early morning expeditions is that most streams are practically deserted and the trout undisturbed.

The angler who follows the trout during the late season and makes a fair showing at the sport must possess a working knowledge of the stream and trout habits that puts him well into the expert class.

Being poor doesn't make a man honest, but it helps keep him virtuous.

"So Bess is sore at her husband? I thought he was perfect. He always turned over his paycheck to her on the first of the month."

"Yeah, but she just found out he gets paid on the fifteenth, too."

Pennsylvania Fish Law Violations

Cases Settled During the Month of November 1949

ALLEGHENY COUNTY

Cunningham, John C., 1006 Maple St., Natrona Heights, Pa. One undersized bass $10.00
Flowers, James, 412 Hastings St., Pittsburgh, Pa. One undersized bass .. 10.00
Hoffman, Russell, R. D. 4, Millvale, Pittsburgh, Pa. Damaging state property 25.00
Larimer, John M., 600 Rebecca Ave., Wilkinsburg, Pa. One undersized bass 10.00
May, Norman P., Box 417, Verona, Pa. Fishing in nursery waters 100.00
Shapiro, Henry, 729 Broadway, McKees Rocks, Pa. Exceeding creel limit 10.00

ARMSTRONG COUNTY

Ambrose, Lloyd, R. D. 1, Adrian, Pa. Operating motor boat without license 10.00

BERKS COUNTY

Mengel, Paul, 170 N. Charolette St., Pottstown, Pa. Fishing with four rods and four lines 20.00
Nawrocki, Paul, Monocacy Station, Pa. Operating motor boat without license 10.00

BLAIR COUNTY

Darr, Howard, 330 Mulberry St., Hollidaysburg, Pa. One undersized bass 10.00

CAMBRIA COUNTY

Dixon, David A., Glasgow, Pa. Using set device 20.00
Hallen, Lemuel E., Fallen Timber, Pa. Using set device 20.00
Morris, Walter, Fallen Timber, Pa. Using set device 20.00
Nedrski, John, R-166 1st St., Conemaugh, Pa. Illegal device 20.00
Zimmerman, George, Fallen Timber, Pa. Using set device 20.00
Zimmerman, Harry, Fallen Timber, Pa. Using set device 20.00

CLARION COUNTY

Shrenckegost, Ott Jr., New Bethlehem, Pa. Operating motor boat without license 10.00

CLINTON COUNTY

Bowman, Richard C., Mill Hall, Pa. One trout in closed season 10.00

CRAWFORD COUNTY

Boyles, George, Conneaut Lake, R. D. Pa. Selling baitfish from inland waters 10.00
Poux, William J., Guys Mills, Pa. Damaging state property 25.00
Stallard, Gordon W., R. D. 3, Guys Mills, Pa. Damaging state property 25.00

ERIE COUNTY

Porter, Herbert, 719 E. 18th St., Erie, Pa. Fishing without a license 25.00

HUNTINGDON COUNTY

Prough, Howard D., Mt. Union R. D., Pa. Non-resident fishing on a resident license 25.00

INDIANA COUNTY

Cassidy, Paton B., Rochester Mills, R. D. 1, Pa. Illegal device 20.00
Cessna, James E., Gypsy, Pa. Assisting in the taking of fish by explosives 100.00
Smith, Rudell N., Gypsy, Pa. Assisting in the taking of fish by explosives 100.00
Tyger, Calvin G., Gypsy, Pa. Assisting in the taking of fish by explosives 100.00
Voytus, Steve, Gypsy, Pa. Taking fish by explosives 100.00

LANCASTER COUNTY

McMahon, Charles, 251 N. Second St., Columbia, Pa. Exceeding creel limit 10.00

LEBANON COUNTY

Hummel, Herbert L., 125 E. Maple St., Lebanon, Pa. Trolling from outboard motor boat on Lake Carey 20.00

LUZERNE COUNTY

Ruskoski, Walter, 278 Belles Rd., Wanamie, Pa. One undersized pickerel 10.0

McKEAN COUNTY

Mercer, Alfred, 15 Newell Court, Bradford, Pa. Operating motor boat without license 10.0

MONTGOMERY COUNTY

McArthur, Leigh, 73 Blane Ave., Hatfield, Pa. Illegal operation of motor boat 25.0

NORTHAMPTON COUNTY

Jenkins, James W., R. D. 2, Easton Pa. Fishing without a license 25.0

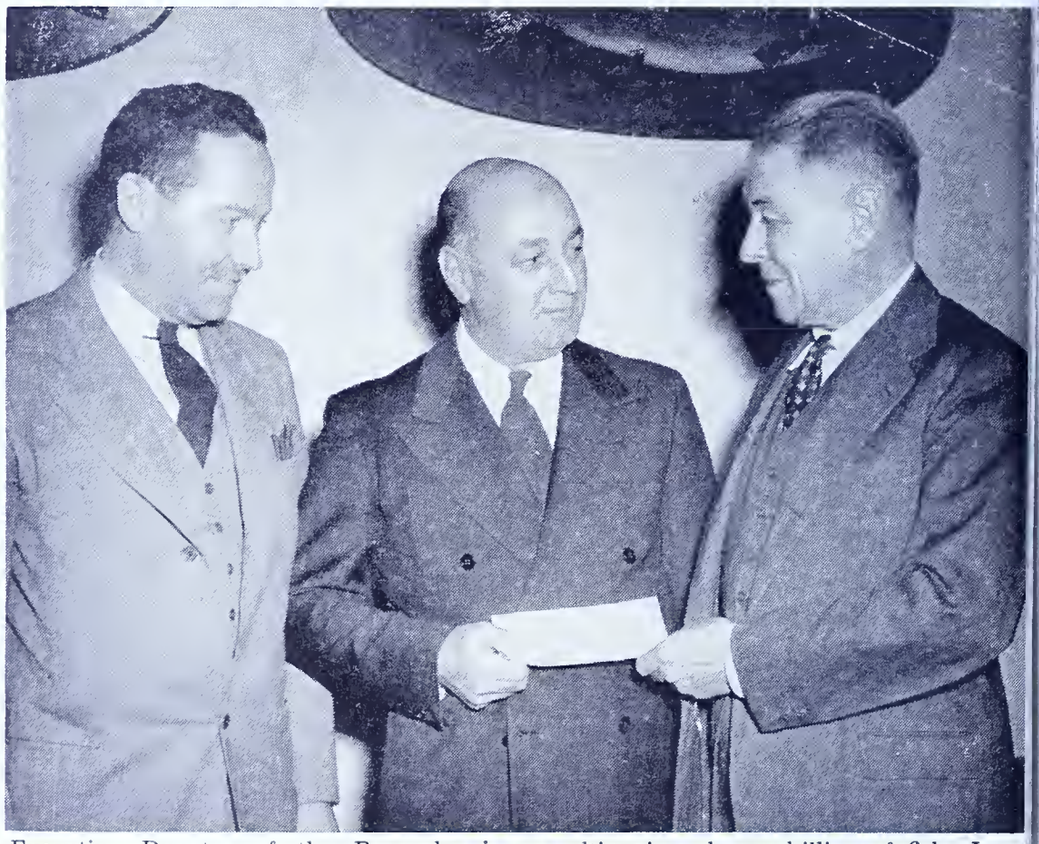
PHILADELPHIA COUNTY

Pulaski, Michael J., 117 Reed St., Philadelphia, Pa. Lending a fishing license 25.0

WASHINGTON COUNTY

Densen, Otto, 704 Franklin St., Cannonsburg, Pa. Lending and transfering a license 25.0
Deutsch, Raymond, Box 93, Allenport, Pa. Illegal device 20.0

THE LAW MAKES NO DISTINCTION!



Executive Director of the Pennsylvania Fish Commission, C. A. French (center) is handed certified check for $10,000 by Dr. Norris W. Vaux, State Health Secretary and Chairman of the Pennsylvania Sanitary Water Board while the Hon. Robert J. Trace, Deputy Attorney General for the Sanitary Water Board, looks on.

It all begun on July 2, 1947 when the Daugherty Refinery at Petrolia, Butler County, a subsidiary of the L. Sonneborn Sons Inc. polluted Bear Creek, a tributary of the Allegheny River with sulphuric acid resulting in a heavy killing of fish. In a dition to the $10,000 payment, the corpor tion also paid a $1,000 fine and were requir to pay the costs.

This is the culmination of the first crimir prosecution brought under the Clean Strea Act and was instituted when Govern James H. Duff appointed Lee C. McCandl a Special Deputy Attorney General to pros cute the offending corporation in the Crir inal Courts of Butler County. The case w appealed to the Superior Court which u held the Commonwealth.

The Sycamore

By ROBERT LEO SMITH

Some call it buttonwood and others netree, buttonball or sycamore. But whatever name it is known, the amore is one of our grandest and endliest trees.

The sycamore likes to sink its roots o deep, loamy soil whose richness expand it into the country's largest dwood, in girth at least. It is parlarly at home on bottom land and ng the borders of lakes and creeks d rivers.

While fishing along our larger waterys either in summer or winter, even least observant angler cannot be aware of the sycamore's presence. predominates all other trees in the terside landscape. In summer its en, spreading crown, piled high with ge, deeply lobed leaves, outshines of the surrounding trees. In tumn, after the last leaves have len, its queerly colored bark stands t against the darker trees.

The unique pattern of the bark of sycamore is caused by the older rk peeling off in thin plates, exsing the new lighter colored bark neath in gay patches of grey, tan d green. This gives the sycamore curious mottled appearance, as if it ere constantly dappled with sunht.

During the fall and winter the sycaore branches bear hundreds of ugh, ball-like seed clusters about one ch in diameter. The seeds are shed ring winter and spring, but unless ey have precisely the right condiins, few germinate. Since it is an tolerant species, the sycamore is ver widespread, but occurs singly or small groves.

Like the oak, pine and hickory the camore played its part in the delopment of the country. The pioneer garded it as an indicator of fertile ils. He found its wood tough and rd and from its gigantic trunks he wed solid wheels for his carts. He shioned barrels out of its hollow unks. Later the sycamore wood was sed in Pullman coaches and the mous Saratoga trunks. Now it is sed in boxes, crates and furniture.

When the settlers first saw the sycaore, they marveled at its immense ze. Some of these trees towered 175 et into the air and measured 13 feet diameter. But giants like these on disappeared and today few sycaores even approach their former dimensions. But its color never diminished. Its patterned trunk glowing with warmth and life against a stormy winter sky is as inspiring now as its huge predecessor was to the pioneers who found it in the river-bottom forests.

THE WORM HAS ITS DAY

(*From Page* 5)

much as my attempts with artificial. The trout struck readily, but did not seize the bait. Bob had one trout, a rainbow. So it looked as if the worm was having its day.

But Bob did have a good story. He said he had seen a fellow fishing natural nymph creepers. The fellow had two trout in his creel.

Nymph creepers are the larva of various flies which later in the season would be flying above the stream. They are too small and too tender to be fished with effectiveness, but I had heard before that there were species that could be fished. Of course many wet fly fishermen have imitation nymphs in their kits.

Bill went upstream to see this fellow. And before the day's fishing had ended Bill had taken two trout with artificial nymph creepers, imitations of the natural bait used by the stranger.

By the time our little conference was ended fishermen lined the Little Lehigh. There were still fishermen, angling the bottom with heavy sinkers and wooden nipsies; bait casters with plugs and spinners; water worm fishermen, minnow fishermen, night crawler addicts; wet fly specialists and bucktail and streamer boosters. But of all fishermen, the worm addict fared best.

As the day wore on, a misty rain fell, but it did little to dampen the excitement. On April fifteenth, the trout fisherman will have his day, come hell or high water.

And as a rule, on April fifteenth, the worm has *its* day.

BAMBOO FISHING ROD

(*From Page* 13)

Wood and Green Heart were some of the imported woods. The Japanese bamboo is used for fishing poles because they are light weight and very strong. Philippine bamboo is used for the construction of furniture and houses.

Hiram Leonard, the father of the flyrod, used ash and lancewood to construct his first flyrod about 1871, and it was about this time that he constructed his first split bamboo rod, from Calcutta cane. With the use of Tonkin cane, better rods were built. Fishing, fly casting or surf casting rods made from various other woods, metals and synthetics are not in a class with those made from Tonkin bamboo, because of its good back-pull, whip, light weight and resilience.

In selecting cane it should be examined carefully to find out whether or not any of the moulds or cellulose rots (Chaetomium) are present. They range in color from a brilliant orange to a deep grey. It is the deep grey one that attacks the fibro vascular bundles and completely destroys them, reducing the strength of the cane. Once its presence is detected the cane should be discarded. This grey mould also attacks clothing and is easily recognizable on sight.

"Pull over, mister," said the traffic cop, "You haven't any tail light."

The motorist stopped, got out for a look, and was speechless with dismay.

"Well, it's bad, but not that bad," said the officer.

Recovering his voice, the motorist quavered, "It's not the tail light that bothers me, but what's become of my trailer?"

THE SECRET

(From Page 7)

he carefully blanketed John Thomas.

"The Branch!" gasped Charley, aghast at the thought. "There's no fish in there."

The Branch is a large stream, galloping and slipping alongside the road to Munsonville where it flows out of Granite Lake. Scarcely any one ever fished it in those days because the prevailing style in good trouting waters was set by the numerous small brooks that ramify the region. Indeed, they abound in such numbers that on one occasion I fished eighteen of them in the course of a single morning. Whenever a large trout was taken from the Branch it was usually considered an accident.

Presently we saw a fitful light dodging among the trees on the other side of the river.

"I'll bet it's Hen," observed Jack.

"An' most likely goin' to the place wher he catches them trout," snorted Charley.

"Now, wait a minute fellas and listen to this," Jack proposed, inspired by anothr outburst of a prolific mind. "We'll leave him get set, then we'll creep up by follerin' the lantern. After gettin' as close as we can, we'll wait until we see him catch some of them trout. If he does, why, then, we'll know it's the place," he reasoned.

"But, it'll be daylight by then and he'll see us," I objected.

"See us nothin'," Jack insisted. "He can see us only if he turns around, and he can't hear us because the river makes a lot of noise. So you see, accordin' to that, he won't turn around." It all sounded like good reasoning to me so I withdrew my objection.

When that flitting point of light came to rest at the edge of the water, we crossed the bridge (being careful to give John Thomas a wide berth), and started picking our way toward the spot.

You can well imagine that our task was cut out for us, because among those trees it was actually black, and the way was beset by boulders, downtimber and what-not. Two score feet from the light we paused, puzzled.

"What do you make of it?" whispered Charley in alarm.

"Nothin'," I replied. "I don't see him."

"I tell ya," began Jack, but he couldn't have stopped more abruptly had his head been severed with a single stroke.

From behind us sounded a coarse chuckle. Scared stiff we turned as one to look squarely into Hen Woods' grinning face, his heavy mustache adding a touch of fierceness that I had never before noticed. The dim, reddish light from the lantern added to the effect.

"Ho ho," he laughed, "so 't was ye what caused John Thomas to whinner in the middle o' the night?"

"We-well," stammered Jack, ever ready in any emergency. But again he was stopped, this time by a kick from one of Charley's heavily shod feet.

"So, ye want to see where I ketch my trout?" Hen asked, not too unkindly.

"Yes—no—yes—no," blurted Jack. "I mean yes," he finally amended upon seeing Hen's mirthless grin melt into a smile.

"Follow me," he commanded, leading the way to the will-o'-the-wisp that had been the cause of our undoing.

Picking it up together with an armful of tackle that had been lying on some freshly cut evergreen boughs, he went on downstream while we followed albeit somewhat shakily.

At the head of an enormous pool he halted, placed his tackle on a convenient log and said: "This is the place—this is where I ketch them trout. Jes' ye wait 'till daylight."

Daylight was not long in coming, but it seemed like an age to me. In the meanwhile, the angler busied himself preparing his tackle. From the quantity that he had he selected a heavy bamboo rod, and a line and a reel to match. Shortly before daylight he blew out the lantern and then retired a short distance from the stream's edge, seating himself on a dry log. During this interim he scarcely uttered a word except to incoherently mumb to himself.

When dawn finally broke over tl dark heights of Sullivan Mountai Hen picked up his outfit, fished home raised nightcrawler from a ca and baited the large hook. In oı great sweep he tossed the bait ha way across the river and deposited in some heavy riffles at the pool's hea

Suddenly the dancing line tighten and Hen's eyes actually glowed as l struck and hooked the fish. After couple of short dashes the trout w yanked from its element with as litt ceremony as attends the capture of sucker with a gig.

"What d' ye think o' that un' chuckled Hen, tossing the speckl beauty at our feet after he had severe the line a short distance above tl hook.

"Jeepers!" cried Jack enthusiasti ally. "What a fish!"

During the next hour we saw th initial performance repeated ni times. Upon expressing our collecti surprise, Hen cut loose with a liter tirade, expostulating in no uncerta terms. His sudden volubility was impressive as had been his sull silence.

"I'll tell ye boys," he said as l busied himself with the building of fire. "Don't let any body tell ye di ferent—there's plenty o' trout in th here river. Why, I ask ye, shouldı there be as many in here as in tl small brooks? No reason at all," l answered himself. "Little trout little brooks, big 'uns in rivers. Mo food in the big streams makes bigg fish. Ain't that gud reasonin'?"

hat, as homely as it was expressed, biological truism.

But," he continued, "ye can make ud fishin' place into a better un. y? Well, in the summer I make hole better by adding a log here a rock there. Then every chance t I ketch some fry from the brooks put 'em in it. Ye see that's my ut—providin' ye ken ketch 'em," concluded with his peculiarly rse laugh.

aradoxically, the essence of dern conservational practices was ed by old Hen, the pot fisherman. e looked at each other and Jack about to say something when Hen e and began gathering up his gear. em's enough fer now, and besides I 't want John Thomas to ketch l."

OAKY!

(*From Page* 15)

Release that fish. He's mine" Gus ered.

Any fish I catch in this man's ocean ongs to me."

Gus had been yanking on the rope as the anchor came over the side grabbed the oars and rowed around larger boat—fouling the line re-nsible for Croaky's dilemma.

That gave the fish the chance he had n looking for. Shaking himself agely, he dislodged the hook.

Let's have the net, Boss" he aded. "There are hooks and sharks l everything here."

Obediently Gus scooped him up and osited him in his own little box.

For that good deed I'll make you althy" promised Croaky. "Bet your e's butter money on Off-Islander in fourth race at Jamaica tomorrow l all you'll have to worry about it ting clams for yours truly. It's a re winner."

'Sure," you mean!

'I'm nautical. Off-Islander is sure hore horse—sired by Sea Horse or nething. I've known the family all life."

'Never heard of him."

'Then look up your dope sheet, Boss. 's running tomorrow—and what ds!"

'What's that the fish said?" shouted Captain across the water.

'Nothing" Gus replied shortly.

Horse racing to Gus was bum busi-ss. Gin Rummy and Stud Poker re'nt so bad, but he stayed away m the fillies.

Still, when the dope sheet actually ted a nag named Off-Islander, at odds that looked like a list of the local grocer's scarce food prices, he once again went into a huddle with Louise.

All you have to do is to look up the prices paid on Off-Islander that day. $214.00, $95.60 and $62.60 to win, place and show. Louise and Gus robbed the piggy bank, snitched the egg money and borrowed from Uncle Louis—and bet Off-Islander right on his valuable nose.

For once in their lives they gambled profitably. What a fish!

They were on top of the world. With an occasional tip of this kind from their little friend, they could keep there until an atomic bomb sent them higher. Kindness pays every time, and I don't mean maybe.

A couple of days after the race, the Captain dropped around.

"No hard feelings, mister" he said. "That fish peeped a trifle loud. Some of us followed his tip and we made plenty. Now we are interested in a follow up or two. We really have something in that fish of ours."

Gus hated his loose use of the plural. Croaky was *his* fish, but he saw at once that it was going to be mighty tough to reap all the advantages for himself. Those chaps knew far too much.

"Where is he?"

"I'm here—in this tank."

"What's good at Atlantic City?"

"The bathing beauties!"

"I mean at the new track!"

"Oh, that" grunted Croaky. I'm off that stuff. Gambling's bad for the boss and for anyone else. I give tips only for special favors."

The Captain and Gus argued for half an hour—but no soap. Croaky became a close-mouthed clam.

Later, when the family was alone, the fish became more talkative.

"A real favor, I said, Boss. Like saving my life, or . . ."

"Or what?"

"Louise wouldn't like it!"

"Or what?" asked Louise. "I'm your little pal."

"Like getting me that harem. Gus promised to do it, but you hate the idea."

"It's really not a bad idea. A woman can change her mind, can't she?"

"Now you're co-operative" croaked the fish, frisking briskly around his tank. "Let's go fishing tomorrow and I'll pick the babies I like. How about it, Boss?"

Before daylight next morning Gus and Louise loaded Croaky's tank on the car and drove down the back roads to another shore point where there were no party boats. No reason why the Captain should be in on everything!

Out in the inlet they found the fishing good. Yes! The fishing was excellent but the fish were all bass, flounders and weakies. Not a croaker was hooked—male or female.

Croaky became more and more disgusted.

"Let me swim around a bit" he pleaded. "There must be some of my tribe here, some place. Drop me in and I'll lead 'em to the clams."

Because there was nothing else to do, Gus obeyed.

Croaky, the tipster, cooled himself in the waves for a few minutes and then began his search. Occasionally he broke water to report. But for over an hour those reports were decidedly negative.

At flood tide they heard a mighty splash.

"I've got 'em, Boss" came a glad cry from a few yards away. "Clara and Camille. They're beauties. Get your landing net for us!"

Gus spied his pet immediately, with two other fish swimming affectionately—one on each side.

But he also saw the fin of a shark and shouted a warning.

"I see him, Boss! Net us quick! Here we are!"

Gus scooped his landing net savagely toward Croaky and his harem—just as the shark broke water. His jaws snapped savagely as Gus lifted the net over the side and deposited the contents into the tank.

The shark was only a little youngster and had already disappeared. So with a sigh of relief Gus looked into the tank.

"Croaky!" he called. "Croaky!"

There was no answer, although two fish Croaky's size were swimming around and around.

"Speak to me Bub!"

Obediently one of the fish rose to the surface and Gus heard a croaky 'bubble.' The other 'bubbled' also. But neither said "Bub" and he knew at once that the shark had scored. Croaky in his fright had forgotten his gallantry and surged ahead. Gus had netted his harem. Croaky had croaked his last croak.

That's it! That's the story. Gus didn't catch the shark the following day, cut him open and discover Croaky impersonating Noah. He didn't do a thing but sit in that boat and bellow like a bull, while Louise gently lifted her pet's fiancees from the tank and let them slide into the treacherous depths of Shark Inlet.

Gus and Louise could have had a good fish story to tell had things been different.

Oh well! That's life!

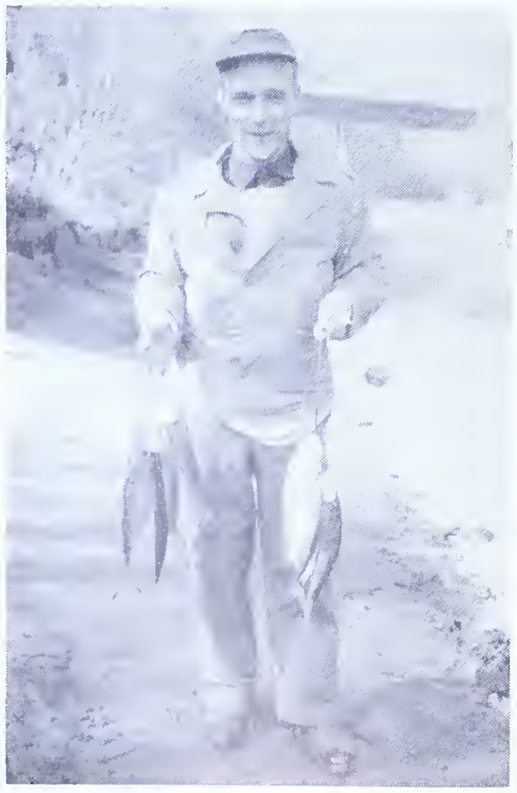
There was a young fellow named Sidney,
Who drank 'til he ruined his kidney;
It shriveled and shrank
While he sat there and drank,
But he had a good time of it, didney?

THOSE MARYLAND SHAD

(*From Page* 12)

the following information. In Maryland a distinction is made between tidal and non-tidal waters and a license is required in non-tidal waters but not in tide water. The non-resident license fee is $5.50. A non-resident three-day tourist license may be obtained for $1.75 and must be returned within three days after expiration. There is no minimum size or creel limit on shad in tidal waters but a creel limit of ten (daily) exists in non-tidal waters with no limit on size.

Where to fish is always a problem, and Pennsylvanians would do well to compare Chesapeake Bay with Delaware Bay in getting the general "lay of the land." The Schuylkill flows into Delaware Bay and in much the same manner Maryland streams and rivers flow into the Chesapeake, and it is at these spots that the shad are found. The Susquehanna is the largest and perhaps the best known. Winters Run, Middle River, the Gunpowder and others empty into the bay south of the Susquehanna and are all good. Shad running up the Susquehanna encounter the Conowingo Dam above Havre de Grace and turn either northward and enter the Octararo or southward and run up Deer Creek. The Octararo is considered to be the best in the state and certainly appears to be the most crowded during the season. Fortunately crowds are not too much of a problem since shad abound throughout the river and consequently the fishermen are pretty well spread.



A morning's catch on The Octararo. These are Hickory Shad, running to three lbs.

The line of tide-water demarcation on the Susquehanna is a line drawn direct from the northernmost point on the mouth of Deer Creek in Harford County in an easterly course to Granite Lodge in Cecil County. The Octararo is north of this point, and a license is required. Streams running parallel to the Susquehanna and to the south are generally separated by the Old Philadelphia Road insofar as tidewater is concerned. Visitors are cautioned to check with local authorities to insure they are on the right side of the line if they are seeking to fish in tidal waters and thereby not needing a license. Licensed anglers need not be concerned with any lines or boundaries.

All Pennsylvania anglers can, I am reasonably sure, expect the same fine courtesies and privileges extended them in Maryland that so many of us are accustomed to finding in the Keystone State.

THE LEECHES

By CARSTEN AHRENS

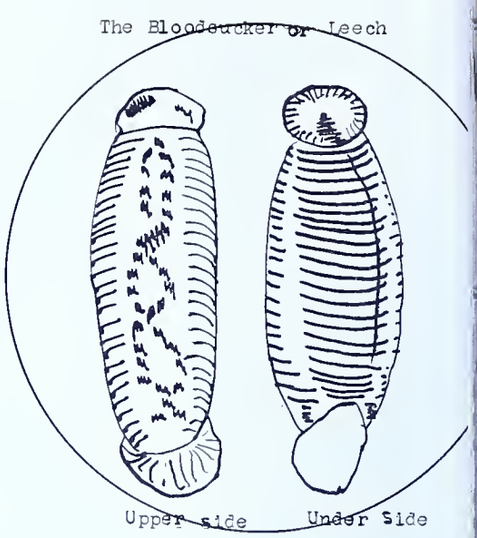
When Bob and I were boys, we spent many an afternoon poling our raft through the old swamp. Come chore time, we'd prepare to go home. Off would come the bathing suits and before we pulled on our clothes, I'd inspect the parts of my brother's anatomy that he couldn't see, and he'd look me over. We'd always find and remove several leeches . . . We called them bloodsuckers.

This curious worm falls into the same phylum with the common earthworm. Both worms have true segments, are hermaphroditic, seek darkness rather than sunshine, and hibernate by burrowing down below the frost line.

But the earthworms are never parasitic. They do not have suckers at all, and the leeches have them at both ends of their bodies. Leeches rarely reach the size of our giant night crawlers. Earthworms do not flaunt the colors their relatives wear. The leeches are dark green or brown above, lighter below. Often they are streaked, mottled, or spotted with red, yellow, orange, or black. Earthworms are without eyes; the leeches have one to five pairs of eyes in the segments close to the anterior sucker.

Earthworms have whiskerlike setae to get them places. Leeches locomote best by swimming through water in an undulating fashion, although many of them get along excellently on moist surfaces by using first the posterior and then the anterior sucker. They loop along much like a measuring worm. They have a powerful muscular system with the muscles running in circular, oblique, and longitudinal directions.

Although several species of leeches are found in swift water, the majority of them inhabit ditches, ponds, and lakes. They are



commonly found under stones, in d vegetation, or in the mud in the bed or b of streams. Sometimes they are so nume that just stirring the silt with a bare will bring a collection! Occasionally burrow in soil far from water, possibl pursuit of earthworms.

The leeches fall quite nicely into general divisions: Those without and t with jaws. The simpler leeches are out jaws, but they have a proboscis w is protrudable in the anterior sucker. the first division fall the brook leech, leech, and the turtle leech. These are small species, rarely exceeding 4 inche length. They are usually temporary p sites, remaining on the host for short pe of time.

If you take your field glasses and w a turtle climb from the water on to a s log, you'll probably be able to see lee attached to his hind legs. They'll be han from the thin skin close to the body. turtle probably didn't crawl into the light to build up his supply of vitami but to rid himself of his parasites. S the leech is aquatic, it must loose itself drop back into the pond, for no leech live in direct sunlight away from wate

The brook leech doesn't actually suck b but lives directly upon aquatic insects worms. It often has its young attache their tiny suckers to the ventral side of parent's epidermis. When a leech is so d rated, and it contracts, it resembles an mated cocklebur.

The second group has sharp jaws wi the anterior sucker. Here are included worm leech, the horse leech, and our bloodsuckers, Marcrobdella *decora*. are from 4 to 9 inches in length. The bloodsucker is found, often abundantly, northeastern North America. It is com in our state. It often becomes a pest in old swimming hole.

Although physicians usually use the la medicinal leech which is imported Europe, M. *decora* has been frequently successfully substituted. It will painl make a three-parted slash through the At the same moment it forces into the a secretion which prevents the blood clotting. Then it quickly draws out than its own weight in blood. Followi complete meal, the bloated animal falls its host and may lie motionless for a m or more while it digests its load.

hat's New

Reviewed by Hugh Johnson

in Fishing Books

authors of fishing books were required ubmit their manuscripts, before publica-, to some sort of a committee which ex-l for the purpose of passing for pub-ion only those books which contributed a practical fashion to greater angling iciency and which did not in large part er the same ground already covered by r books in print, the volume of fishing ks published in any one year would bably be cut by about 90%. But, thank lucky stars, we live in a system of demo-ic capitalism and reasonably free enter-e where an author, to get his angling ervations into book form, has only to a publisher willing to take a gamble. nted, there are waste and duplication his, but there is also free expression and, he flood of new books pouring from our y presses, there are always a few gems ch a committee of fishing book com-sars would probably consider too emphe-al or insufficiently utilitarian and would kill them before they ever got into print.

One such gem—a sweetheart of a book—in *In Defense of Worms* by Frederic Van de Water (published by Duell, Sloan & Pearce, 270 Madison Avenue, New York 16, N. Y.—$2.50). In a style as relaxed and graceful as the cast of an expert angler, Mr. Van de Water has written a book of captivating, thought-provoking angling essays—full of the wit and quiet philosophy of a man to whom fishing has become a way of life and for whom fishing and all that it means to him has shed light and answer on many larger problems of living in a troubled world. The commissars wouldn't pass this book because they wouldn't understand it, any more than they would pass or understand the Book of Matthew in the New Testament.

A worm fisherman at heart and a fly fisherman in practice, Mr. Van de Water feels that fly fishermen have complicated an essentially simple sport with technicalities and ritual, just as modern man has over-civilized his life to the extent of insulating himself from fundamental truths. He admits that he has become enmeshed in the formalism of flying fishing, that he "fishes almost exclusively with a fly now from preference commingled with cowardice" because "it will be bad enough for my heirs to list my other delinquencies without adding that, to the very last, I had been a worm fisherman." Each of the ten essays is so perfect in its own way that it is extremely difficult to pick a favorite, although I have found myself re-reading several times the essay "In Defense of Worms" from which the book takes its name and "The Supercilious Salmon"—a wonderfully funny satirical commentary on salmon and the special breed of citizens who fish for them.

One of the chiefs at the New York Public Library has gone so far as to suggest that *In Defense of Worms* may "dethrone Izaak Walton as the number one classic of sporting literature," and for my part, I wouldn't hesitate to bracket it with *Pools and Ripples* by Bliss Perry and *Fisherman's Luck* by Henry Van Dyke as one of the three finest pieces of angling literature, in the contemplative vein, published in the past two centuries.

"THERE WAS A TIME, I FISHED FOR FISH."

By G. L. HOLLER

can hear the wise Boys asking "What you fish for now?" That is a good ques-n. If put to every fisherman, with a plea honesty and thought, I wonder how many erent answers you would receive! This t doesn't make sense, I'll bet. Let me another way.

: you see or hear the word TROUT and start to think of TROUT, what do you ualize in your mind? Stop right here and nk a little, I dare you. TROUT ..... OUT.....TROUT.

Do you see a cleaned fish frying in a llet? I imagine a few fellows, who live eat, would be able to smell that frying n. Then again some of you may picture TROUT as a painting, in all of its natural ors. Not me. I see neither of these pic-es unless they are specifically brought mind.

The scene, that appears in my imagination, totally different. It is a scene of a fairly all stream, tearing down over rocks into k pools, shaded by hemlock trees. Here l there are roots sticking out of the banks l large rocks forming perfect cover for n. If you look close you can see dark apes shooting away. Those are TROUT at saw you first. It's funny but in that ture I didn't see myself catching any fish. aybe by imagination is too realistic!

The word BASS. Think of it for a moment. ASS———BASS. The picture that now mes to my mind is altogether different om the other one. It is of a stretch on e Allegheny River. A part, that within mile, has a narrow deep fast shoot spread-g out into a short wide pool. Then this ol gradually picks up speed and flows over a very short but broad shallow riffle into another pool, deep and curving. I believe the reason this scene always comes to my mind is that so many different things have happened to me there. Muskies, walleyes and even trout, all have a share in this stretch.

Was your reactions to this word association similar to mine? If so, I insist you fish for pleasure, not fish. Sure, I'll admit, a few fish will help an awful lot, still the pleasure of being in those surroundings with congenial friends is the thing you remember longest. Years later you will say, "Boy! Wasn't that a beautiful trip to Mill Creek," then as an afterthought, "I believe we caught a few fish, too."

What brought this on? Darnif I know. It must have been something someone said that made me think of my own experience. I never fished 'till after I was married. The start came about through friendships formed at a Sportsman Club in the winter and carried over into the summer. Then the Bug really bit me. For a couple of years I judged the success of a trip by the weight of the fish. As neither my wife or I care too much for bass, I actually was fishing for fun.

All of a sudden such a strange thought struck me, why should I feel bad explaining to people that I didn't catch any, or many fish? No it shouldn't bother me, because I enjoyed the trip, regardless of the amount taken. After this pressure was removed I had more time to observe and experiment. I, actually, started to unhook 9 to 12 inch bass! In fact, I'm so crazy now and I unhook all but the bigger braggin' size. Does that make my answer, Fish or Pleasure?

The Heaterette!

They haven't figured out yet how to do something about the weather, but there is something that you can do if you're troubled by those cold winter days.

The perfect answer to frigid digits is the Pocket Heaterette—a new product about the size of a package of cigarettes and about as thin as a watch. Specifically designed for outdoorsmen, fishermen, hunters, sportsmen and spectators, the Pocket Heaterette generates an even temperature of 125° F for 24 hours on just one filling of ordinary lighter fluid. Refuel and use over and over again.

The secret of this amazing hand warmer is the heating element. As the vapor from the lighter fluid passes through the element, it ignites at the low temperature of 125°—not sufficient to maintain a flame, but warm enough to provide comfortable, deep penetrating heat.

Because there is no flame, the Pocket Heaterette is safe even for children. Old folks, too, have found that Pocket Heaterette helps immeasurably to relieve the pain of stiff joints and aching muscles. And since its size is so convenient, it can be carried in a vest pocket or purse, ready for immediate use.

A DISCUSSION ON VISION

(*From Page 3*)

This is how a dry fly should rest and float upon the water. Note how the stiff hackles and tail support the fly. To get an idea of how a fish actually sees our artificial flies, they must be viewed through the water toward the light.

these colors are best used when "curiosity" lures are used. Natural looking lures, those which represent living insects, frogs, minnows, etc. and their colors do not enter into the sensitive color spectrum of the fish. Therefore even if the frog is green in color, it is not implied that bass or the other finned creatures can not detect the green color. They can and very much so. Those colors mentioned are the ones which they are most sensitive to in their color spectrum.

In conclusion I would like to add that these are only my own observations while astream. Undoubtedly there are some who will greatly differ with what I have here set down, however, again, we can only experiment and theorize on this subject. Every angler should give these things serious thought for then, through a better understanding, more and more things will be revea which will tend to make this gam angling even more interesting.

While it is hardly necessary to climb trees in order to be out of the trout's range of vision, sometimes it undoubtedly helps.

ALL IN THE NAME OF CLEAN STREAMS!

Ninety-two municipalities in the Pittsburgh District which are under orders from the Sanitary Water Board, directing Governor Duff's Clean Streams program, to prepare plans for sewage treatment works or to abate pollution of the streams, have geen notified that it is necessary that they file at once with the Board official documents showing the steps they have taken to comply with the anti-pollution order.

According to the report of the Allegheny County Sanitary Authority 59 of the mu-unicipalities have agreed to enter that Authority for the treatment of their sewage and that 36 of that number have entered into contracts with the Authority for that purpose. However, none of those communities has filed official notice and a copy of the contract with the Board which is a requirement. It is understood that many of them if not all have been under the impression that executing the contract with the Authority placed them in compliance with the Board's orders.

The plan under which the 59 municipalities, including Pittsburgh, have joined the authority is known as Plan Z. One of them is Fox Chapel which discharges its sewage to the sewer system of another municipality which makes the latter community responsible for treatment. Willkins Township, under orders from the Board, is requesting that the order be rescinded because it is not sewered. Action has been withheld pending satisfactory solution of a problem presented by a real estate development in Wilkins Township which has sewers.

In Plan Z of the Authority, in addition to the 36 municipalities which have executed contracts with the Authority, are 20 municipalities which the Authority reports have authorized execution of contracts but that they have not yet been received by the Authority. They are being required by the Board to file official notification with the Board of their intention to join the Authority, and if they have taken that step to file a copy of the contract made with the Authority with the Board, or to indicate that they are preparing plans for their own sewage treatment works.

There are 36 additional municipalities which had entered the Authority to have preliminary surveys made but which are not included in Plan Z for the actual treatment of their sewage. The Authority presented to that group a different contract and the Board gave them 60 days from the date of receipt of that contract to notify the Board if they will join with the Authority for sewage treatment or prepare plans for sewage treatment works independently of the Authority. The Board's latest order requires that it be notified at once of the course which has been chosen.

Thirty-six municipalities from whom authority has received contracts:

Pittsburgh, Castle Shannon, Pitcairn, Brentwood, Township of Penn, Emsworth, Sharpsburg, Dormont, Whitehall, Township of Reserve, East McKeesport, West Mifflin, Ros Farms, Etna, Ingram, Bellevue, Townshi Mt. Lebanon, Ben Avon, Bridgeville, Av Carnegie, Heidelberg, Munhall, Cra Thornburg, Green Tree, West View, T ship of Shaler, Aspinwall, Township of Homestead, Township of Scott, Chur Wilkinsburg, Wall, Ben Avon Heights.

Twenty municipalities which have thorized execution of contracts, but w have not been received by authority Board:

Mt. Oliver, Wilmerding, Edgewood, Homestead, Township of Stowe, Mc Rocks, Turtle Creek, Chalfant, Mill Swissvale, North Braddock, Rankin, B dock, East Pittsburgh, O'Hara, Brad Hills, Baldwin Township, North Vers Township, Collier Township.

Thirty-six municipalities — Zones than "Z":

McKeesport Zone—Clairton, Dravosl Duquesne, E. McKeesport (Part) Eden Glassport, Liberty, McKeesport, North sailles Twp. (Part) Port Vue, Versailles Mifflin (Part), White Oak.

Sewickley Zone — Edgeworth, Glen Haysville, Kilbuck Township, Leet Town Leetsdale, Osborne, Sewickley.

Elizabeth Zone Project—Elizabeth Elizabeth.

Oakmont-Verona Zone—Oakmont, Township Verona.

New Kensington Zone—Arnold, Brac ridge, Cheswick, East Deer Township, F Township, Harrison Township, Ha Township, New Kensington, Spring Tarentum.

Tioga Fishing

The hoppers on the water
And the trout are hitting fine,
Come on up to Leetonia
And bring your rod and line

You can go up to Slide Island,
Or down on Cedar Run,
And boy when they start hitting
You will surely have some fun.

There is trout down thru The Mead
I was there and caught a few
And I caught one great big whopper
Down at Valley View.

Then if you go to Red Rock
Where there really are some trout
If you hook one there your lucky
If you ever get him out.

What matter if you do fall in
And you get all wet and cold
Those things you will remember
When you are growing old.

Then when you come to camp
At the closing of the day.
All that you will talk about
Is the one that got away.

—Mrs. R. C. Pe

BY SPECIAL AMENDMENT OF THE FISH LAWS PASSED BY 1949 LEGISLATURE AND RESOLUTION OF THE COMMISSION—ALL FISHING IS PROHIBITED IN ANY WATERS FROM MARCH 14 TO APRIL 15, 1950, EXCEPT IN RIVERS, LAKES, OR PONDS NOT STOCKED WITH TROUT

THE FOLLOWING IS A LIST OF WATERS CLASSIFIED AS RIVERS IN PENNSYLVANIA

Name	*County*	*Tributary To*	*Basin or Sub-Basin*
Allegheny River	Allegheny	Ohio River	Ohio
Ashtabula River	State of Ohio	Lake Erie	Erie
Beaver River	Beaver	Ohio River	Main Ohio
Beaver (Little) River	Beaver	Ohio River	Main Ohio
Beaver (Little) River, North Fork	Beaver	Little Beaver River	Main Ohio
Black River	Northampton	Saucon Creek	Middle Delaware
Casselman River	Somerset	Youghiogheny River	Monongahela
Cheat River	Fayette	Monongahela River	Monongahela
Chemung River	Bradford	NB Susquehanna River	UNB Susquehanna River
Clarion River	Clarion	Allegheny River	Middle Allegheny
Clarion River, East Branch	Elk	Clarion River	Middle Allegheny
Clarion River, EB Middle Fork	Elk	East Branch Clarion	Middle Allegheny
Clarion River, West Branch	Elk	Clarion River	Middle Allegheny
Conemaugh River	Indiana and Westmoreland	Kiskiminitas River	Lower Allegheny
Conemaugh (Little) River	Cambria	Conemaugh River	Lower Allegheny
Conemaugh (Little) River, NB	Cambria	Little Conemaugh River	Lower Allegheny
Conemaugh River, S. Fork	Cambria	Little Conemaugh River	Lower Allegheny
Cowanesque River	Tioga	Tioga River	UNB Susquehanna
Cowanesque River, North Fork	Tioga	Cowanesque River	UNB Susquehanna
Delaware River	Delaware	Delaware Bay	Delaware
Delaware River, West Branch	Wayne	Delaware River	Upper Delaware
Elk River	State of Maryland	Chesapeake Bay	Lower Main Susquehanna
Genesee River	Potter	Lake Ontario	Genesee
Genesee River, Middle Branch	Potter	Genesee River	Genesee
Genesee River, West Branch	Potter	Genesee River	Genesee
Juniata River	Perry	Susquehanna River	Susquehanna
Juniata River, Frankstown Branch	Huntingdon	Juniata River	Upper Juniata
Juniata River, Raystown Branch	Huntingdon	Juniata River	Upper Juniata
Juniata (Little) River	Huntingdon	Frankstown Branch	Upper Juniata
Kiskiminitas River	Armstrong and Westmoreland	Allegheny River	Lower Allegheny
Lackawanna River	Luzerne	NB Susquehanna River	LNB Susquehanna
Lackawanna River, East Branch	Susquehanna	Lackawanna River	LNB Susquehanna
Lackawanna River, West Branch	Susquehanna	Lackawanna River	LNB Susquehanna
Lackawaxen River	Pike	Delaware River	Upper Delaware
Lackawaxen River	Wayne	Lackawaxen River	Upper Delaware
Lehigh River	Northampton	Delaware River	Middle Delaware
Mahoning River	Lawrence	Beaver River	Main Ohio
Monocacy River	State of Maryland	Potomac Creek	Potomac
Monongahela River	Allegheny	Ohio River	Monongahela
Ohio River	Beaver	Mississippi River	Ohio
Potomac River	State of Maryland	Chesapeake Bay	Potomac
Schuylkill River	Philadelphia	Delaware River	Lower Delaware
Schuylkill River, West Branch	Schuylkill	Schuylkill River	Lower Delaware
Schuylkill River, West-West Branch	Schuylkill	W. Branch Schuylkill River	Lower Delaware
Schuylkill (Little) River	Schuylkill	Schuylkill River	Lower Delaware
Schuylkill (Little) River, East Branch (or Still Creek)	Schuylkill	Little Schuylkill River	Lower Delaware
Schuylkill (Little) River, W. Branch	Schuylkill	Little Schuylkill River	Lower Delaware
Shenango River	Lawrence	Beaver River	Main Ohio
Shenango (Little) River	Mercer	Shenango River	Main Ohio
Susquehanna River	Lancaster and York	Chesapeake Bay	Susquehanna
Susquehanna River, North Branch	Northumberland	Susquehanna River	Susquehanna
Susquehanna River, West Branch	Northumberland and Union	Susquehanna River	Susquehanna
Tioga River	Tioga	Chemung River	UNB Susquehanna
Youghiogheny River	Allegheny	Monongahela River	Monongahela

* See following list for rivers and sections in which fishing is prohibited.

THE FOLLOWING IS A LIST OF RIVERS, OR SECTIONS OF RIVERS, LAKES, AND PONDS WHICH ARE STOCKED WITH TAKABLE TROUT BY THE COMMISSION, AND IN WHICH FISHING IS PROHIBITED UNTIL 5 A. M. APRIL 15, 1950.

RIVERS

Allegheny River, Potter County—Stocked from the vicinity of Coudersport upstream to the vicinity of Seven Bridges, about 8 miles.

North Fork of Little Beaver River, Beaver County—Stocked from the vicinity of Darlington upstream to the Beaver-Lawrence County line, a distance of approximately 5 miles.

East Branch of Clarion River, Elk County—Stocked from the vicinity of Instanter to Glen Hazel, 7 miles.

West Branch of Clarion River, Elk County—Stocked from a point known as Rolfe, just north of Johnsonburg, upstream to vicinity of Wilcox, 6 miles.

North Branch of Little Conemaugh River, Cambria County—Stocked from above the Wilmore Dam upstream 4 miles.

South Branch of Conemaugh River, Cambria County—Stocked from where the road crosses the stream above Lloydell upstream to Summit Hill Water Company Dam, 3 miles.

Genesee River, Potter County—Stocked from the New York State line to West Bingham, 5 miles.

Middle Branch of Genesee River, Potter County—Stocked from the vicinity of Harmonstown upstream to George Williams farm, 6 miles.

West Branch of Genesee River, Potter County—Stocked from the vicinity of Ellisburg to Genesee, 5 miles.

Frankstown Branch of Juniata River, Blair County—Stocked from the mouth of Pine Run downstream to McDonald Run, 9 miles.

Raystown Branch of Juniata River, Bedford County—Stocked from the vicinity of Bedford upstream to Somerset County line near New Baltimore, 18 miles.

East Branch of Lackawanna River, Susquehanna County—Stocked from the vicinity of Herrick Centre upstream to near the source, 5 miles.

West Branch of Lackawanna River, Susquehanna County—Stocked from the mouth (near Uniondale) upstream to Burnwood, 5 miles.

Lackawaxen River, Pike County—Stocked from the vicinity of Lackawaxen upstream to Pike-Wayne County line, 12 miles.

Lackawaxen River, Wayne County—Stocked from the vicinity of Prompton upstream to the source at Beaver Meadow Reservoir, 22 miles.

Lehigh River—Stocked from about two miles below White Haven upstream to the source. This would include section bordering on Luzerne and Carbon Counties, Monroe and Luzerne Counties, Lackawanna and Monroe Counties, Wayne and Lackawanna Counties—a total distance of about 30 miles.

Tioga River, Tioga County—Stocked from the bridge above Blossburg upstream to the last bridge in this County on this stream, 9½ miles.

LAKES AND PONDS

Adams County—Hartman Dam on Marsh Creek—3 acres in Franklin Township. Chambersburg Water Company Reservoir on Birch Run—22 acres in Mountain Township.

Bedford County—Thomas W. Koon Lake on Evitts Creek—268 acres in Cumberland Valley Township. Beaver Run Rod and Gun Club Dam on Beaverdam Creek—1 acre in Kimmall Township. Replogle Dam on Yellow Creek—6½ acres in Woodbury Township.

Centre County—Metzgers Dam on Spruce Creek—1½ acres in Ferguson Township. Roosevelt Dam on Stoney Creek—3 acres in Potter Township. Penns Cave Dam on Penns Creek—4½ acres in Potter Township. Poe Valley Dam on Big Poe Creek—27 acres in Penn Township. Green Valley Dam on Little Fishing Creek—2 acres in Walker Township.

Clinton County—Woolrich Water Company Dam on Chatham Run—5 acres in Pine Creek Township.

Cumberland County—Wade Dam on Hogestown Run—3 acres in Silver Springs Township. Boiling Springs Lake on Yellow Breeches Creek—9 acres in South Middleton Township. C.C.C. Dam on Hairy Spring Hollow Run—3 acres in Southampton Township.

Erie County—Lake Pleasant on Branch of Alder Run—60 acres in Southwestern Venango Township.

Forest County—Ward Ranch Pond on Coon Creek—10 acres in Kingsley Creek Township.

Huntingdon County—Greenwood Furnace Dam on E. Br. of Standing Stone Creek—3-34/100 acres in Jackson Township. Whipple Dam on Laurel Run—15 acres in Jackson Township. Barree Dam on Barree or McClain Run—2 acres in Porter Township.

Jefferson County—Manner Run Dam on Manner Run—1 acre in Polk Township.

McKean County—Kushequa Pond on Kinzua Creek—13 acres in Hamilin Township.

Monroe County—Snowhill Lake on Mud Run—3 acres in Price Township.

Montgomery County—Upper Perkiomen Valley Park Lake on Deep Creek—38 acres in Upper Frederick Township.

Snyder County—Meisers Mill Dam on West Branch of Mahantango Creek—2 acres in West Perry Township.

Union County—Halfway Dam on Rapid Run—6 acres in Hartle Township.

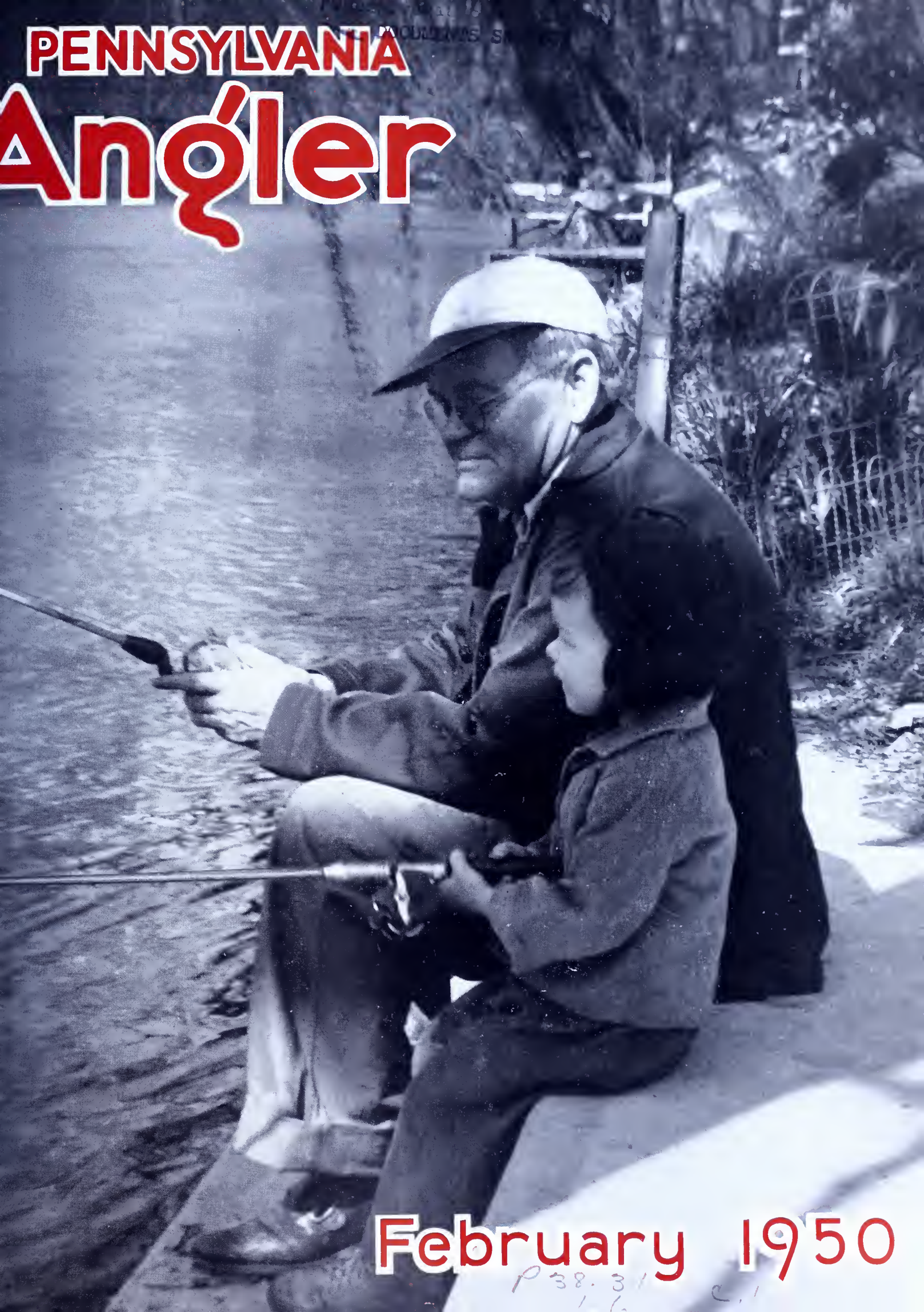
IMPORTANT TO FISHERMEN!

SPECIAL NOTICE!

"By Special Amendment of the Fish Laws passed by 1949 Legislature--All Fishing is Prohibited in Any Waters from March 14 to April 15, 1950, Except in Rivers, Lakes or Ponds Not Stocked with Trout."

PENNSYLVANIA FISH COMMISSION

PENNSYLVANIA Angler



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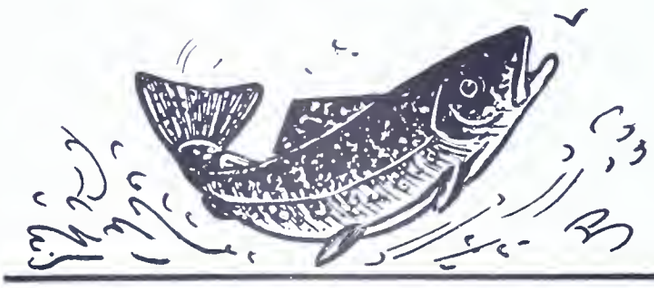

OMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
ISH COMMISSION
HARRISBURG, PA.

The Angler

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A Companionship That Will Never Be Forgotten

SAD, BUT TRUE

When it comes to catching fish
I'm most satisfied;
When it comes to eating 'em
I just love 'em fried,
Broiled, or any other way—
There I call a halt!
When it comes to cleaning 'em
I, by choice, default.

When the bobber bobbles, then
Disappears, I find
Happy satisfaction that
Stimulates the mind.
Stimulated thus, I go
Homeward with this thought:
Life would be more pleasant if
Cleaner fish were caught.

When I hear 'em simmering
In the frying pan
I'm about as happy as
Any fisherman;
Stimulated thus, I think,
Happy life would be
If the task of cleaning 'em
Never fell to me.

When I'm full and satisfied
With the feast, I find
Haunting thoughts of cleaning 'em
Pecking at my mind;
Which, to wise philosophers,
Merely goes to show
When a man is happiest
He can find some woe.

—Bert Pruitt

PENNSYLVANIA'S NEW FISH MANAGEMENT PROGRAM

By GORDON L. TREMBLEY
Chief Aquatic Biologist
Pennsylvania Fish Commission

Are plantings of young warm-water fish species such as bass and bluegills needed annually in lakes and streams where those species are already well established? Why does one water produce big yellow perch and another only perch under six inches? Why is it so difficult at times to catch a certain species of fish in a lake even though that fish is known to be abundant?

These are but a few of the many questions which have confronted fishermen and fish biologists in the past. Steps toward shedding light on these and other problems in Pennsylvania lakes and streams are now being taken by the Fish Commission in its new Fish Management Program.

In recent years we have heard the term "management" used frequently as applied to our forests, our soils, and our game. Much less have we heard the term applied to fish. Yet the fishes in our lakes and streams represent a crop just as surely as do the trees and game of our forests, or for that matter the farmer's livestock. Experience has taught us that greatest returns are obtained when a crop is managed. Fish management is essentially similar to the management of other animals. In each case studies are made to determine existing relationships between the different environments and the various species of animals (be it rabbits or bass) in those environments. In each case an attempt is then made to control or adjust the animal populations or at times to manipulate the environment in such a way that the greatest number of hunters or anglers may have a maximum sustained yield of hunting or fishing. Expressed simply, fish management aims to provide better fishing.

The Pennsylvania Fish Commission, believing that greatest benefits from our public fishing waters can be realized only when a systematic plan of fish management is adopted, has authorized that such a program be undertaken. This program, which is financed by monies from the fish fund earmarked for this purpose, got underway last June. It is the purpose of this article to acquaint Pennsylvania fishermen with the general scope of the program.

In dealing with our waters today we must remember that they are bei fished by upwards of 800,000 angle every year. Since the number of fis ermen increases annually, we feel th the value of our waters is increasi too as our lakes and streams are pr viding more recreation for more peop every year.

It is possible to put a value on pound of trout or bass. But the tru valuable things a fisherman brin home from a day on a stream or a la are not in his creel but in his hea and any attempt at evaluation of the things. fails. Thus it behooves us manage our waters so that they will most attractive and inviting to o fishermen as well as to others who not fish.

Pennsylvania is primarily a state running waters—thousands of miles them. Had it not been that the glac receded after covering only the nor ern portion of the state, we might ha been further blessed with many lak As it is, we have somewhere betwe 400 and 500 lakes—that is, stand waters. Although we hope, in ti to include all public fishing water both running and standing—in fish-management program, we h elected to direct our initial efforts our management program to la and ponds of the Commonwea This may seem surprising in view the predominance of streams. H are the reasons for the decision. O a period of many years much infor tion has been gathered on our strea so that we now know which are sui to trout and which to bass and ot warm-water species. Also we h general data as to the anglers' retu in many streams. This informatio on file and is used as a basis for present stocking policy. More stu are needed on streams particularly the larger, warm-water ones.

On the other hand, our lakes ponds are pretty much of a cl book to us for very little scien work has been done on them. In n cases our present information largely concerned with kinds numbers of fish stocked together some data on anglers' catches. many problems of environmental lationships have not been investiga This is largely because greater de in lakes make them more difficul study than streams. And, finally, believe that positive results in management are possible in lak

Raccoon Creek Park Lake, Beaver County. This new lake is a project of the Pennsylvania Department of Forests and Waters. Initial plantings of largemouth bass, bluegills and bullheads were made here this fall.

anberry Glade Lake, Somerset County. This was built by the Pennsylvania Game Com-ion to attract waterfowl. It first filled in . It has been stocked by the Fish Commis-with only two species—largemouth bass and gill sunfish.

l perhaps more readily than in eams.

he number of lakes in Pennsyl-ia is increasing. For, in addition to natural lakes, every year we see re artificial lakes come into exist-e. Agencies responsible for these v impoundments are the U. S. ps of Army Engineers (flood-con-l reservoirs), the Pennsylvania De-tment of Forests and Waters, the nsylvania Game Commission, and, a few cases, County organizations. e Pennsylvania Fish Commission w has its own dam-building pro-m and these lakes will be designed marily for fishing.

ennsylvanians should welcome the rall dam-building program for it ap-rs to be the one way to expand our ure fishing. Generally speaking, we 't add to our stream mileage except reclaiming polluted or silt-laden eams; but we can augment our eage of fishable standing waters by ensible dam-building program. Most these lakes—both new and old— adapted to fish life and thus need nagement. In the case of new lakes, s extremely important that manage-nt be applied at once by establish-desirable fish species rather than wing obnoxious species to take r.

rady Run Lake. A project of the County nmissioners of Beaver County. This lake, en filled, will provide fishing as well as many er recreational facilities.

"The proof of the pudding is in the eating" and proof of the value of fish management lies in whether it can produce better fishing. As our waters become better known through studies, we must change some of our present policies in handling them. A typical example of needed management is found in some of our Pocono ponds and lakes where stunted yellow perch are found in large numbers almost to the exclusion of any other species. Obviously the perch in these situations is an obnoxious species and should be eliminated for the same reason that a farmer eradicates weeds.

One of the most useful tools in the hands of the fish biologist today is the use of poisons in eliminating stunted or unbalanced fish populations from lakes and ponds which cannot be drained. Poisoning is then followed by stocking with desirable fish species. It may seem heresy to some fishermen to poison fish; but actually it is good conservation at times. Obviously a water area is of no value to an angler if it does not furnish some fishing. Unfortunately the use of poisons for improving fishing is denied the Pennsylvania Fish Commission by existing state laws. It is to be hoped that in the near future fisheries biologists will be given the right to use this very valuable management tool for the purposes of better fishing.

The first field investigations undertaken in our fish-management program were carried on during the summer of 1949 in lakes of northwestern Pennsylvania. Lakes examined were Pleasant Lake, Canadohta Lake, Conneaut Lake, and Pymatuning Reservoir. Although small in numbers, these lakes are important and include the largest natural lake (Conneaut) and the largest water area (Pymatuning) in the Commonwealth. Much important data were collected in this work and is now being analyzed—a big job in itself. For example, about 1000 scale samples were taken from various fish species. By studying these scales, an indication of the relative growth of fishes in various waters is obtained.

Tionesta Dam, Forest County. Built by the Corps of Engineers, U. S. Army, as a flood control project, this reservoir has furnished fishing for several game species including muskellunge.

When studies in any water are concluded, recommendations will be drawn up for the future management of that water. The final steps then will be to put the management plans into action and to make frequent checks on the success of these plans.

It is our hope to keep the fishermen informed of the progress of the fish-management program by future articles in the PENNSYLVANIA ANGLER.

Reining Pond, Wayne County. The dam creating this lake was built about 150 years ago by the D. and H. Coal Co. It is now owned by the Fish Commission. An experiment in the use of artificial fertilizer is being carried on here.

...THE SCHUYLKILL FLOWS GREEN AGAIN

"Cleaning of Pennsylvania's waterways is a monumental task," reminded Judge Grover C. Ladner of Philadelphia, pioneer and crusader for clean streams. And thinking people realize that's why it wasn't tackled before, and that's why it will not be accomplished over night. Today, however, the job is at long last being done in an orderly and intelligent manner; and, in the words of the judge it is "going forward *systematically,* by water *sheds* and *ahead of schedule.*"

Along *seventy miles* of the once-black, now-green Schuylkill, the first river on Pennsylvania's gigantic streams cleanup program—the testing ground, consequently, for clean streams in the Keystone State and the river along which approximately one-third of the population of the Commonwealth resides—twenty-eight of the thirty-six projects originally planned for putting into operation a series of huge desilting dams and six powerful dredges have been completed and most of the remaining eight projects are more than 85% finished. At this writing, the dredges have already removed approximately one-fourth of the twenty-four million tons of coal culm that formerly choked and blackened the River, provided flood hazards at every season and made cleaning of the water in the lower reaches a difficult and expensive project.

We recall that scarcely two years ago there was no river bed to carry off flood waters from the Schuylkill. At most locations, coal silt had accumulated in piles as high as twenty-six feet deep, with three feet of normal water flow above!

Following completion of the dredging operations on the Schuylkill, the huge recently constructed de-silting dam at Kernsville will serve as a catch-all basin for silt eroding from old culm banks in the upper reaches of the stream. It is noteworthy here to add that coal operators all along the Schuylkill have complied with orders from the State Sanitary Water Board and are now removing their coal silt before returning their washery waters to the stream.

By midsummer of this year, one-half of the State's share of dredging the Schuylkill all the way down to Norristown will be completed; and, by mid-1951, all of the dredging operation above Norristown will be finished.

By Ellen A. Dietrich

Little wonder, then, that Judge Ladner, following recent inspection of the almost unbelievable phenomenon in the upper reaches of the once-inky-black, now green Schuylkill (indeed, once one of the filthiest rivers in the entire world) wrote to Governor James H. Duff, congratulating him for having "picked the right man for the job—Admiral Milo F. Draemel"—and congratulated the Governor, too, for making certain that there was no meddling or "interference" with the job. In his communication to the Governor, Judge Ladner further said: "The inspection trip was a revelation, indeed, and indicates a realization of our dreams. Without your *courage* and *perseverance,* however, this achievement—the greatest project of our times—would not have been possible; and, as Constitutional restrictions forbid your being re-elected as Governor, we can only hope and pray that your successor will do nothing to prevent completion of this monumental work which is so much in the interest of all of the public."

And to Admiral Draemel, the Judge wrote: "Allow me to express my appreciation for the opportunity of joining your inspection party on the Schuylkill River Project and personally seeing the splendid results achieved so far. I doubt whether anyone else could have accomplished what

JUDGE GROVER C. LADNER

you have done to date. The wise pla ning, the progress even ahead of sche ule and the enthusiasm of those wl are working under you, all are a t bute to your dynamic personality. am reminded of the famous motto the CB's: 'The difficult you can right away; the impossible mere takes you a little longer' ".

. . . And on another occasion, Jud Ladner added: "There can be no dou about it. The Admiral truly deserv his title as Secretary of Forests AN WATERS, and not merely Secretary Forests and (incidentally) Waters!

Yes, the SCHUYLKILL FLOV GREEN AGAIN.

And as it does, thinking people a reminded of several significant fa that have made possible so much p gress in such a short time on the "mc umental task." Above all, we are minded of the many long years d ing which *deaf ears were turned ward the voice of* "clean strea people." The other voice—the au ble voice—of those years was that industrialists who fought against a and all moves to rid Pennsylvani waterways of their filth.

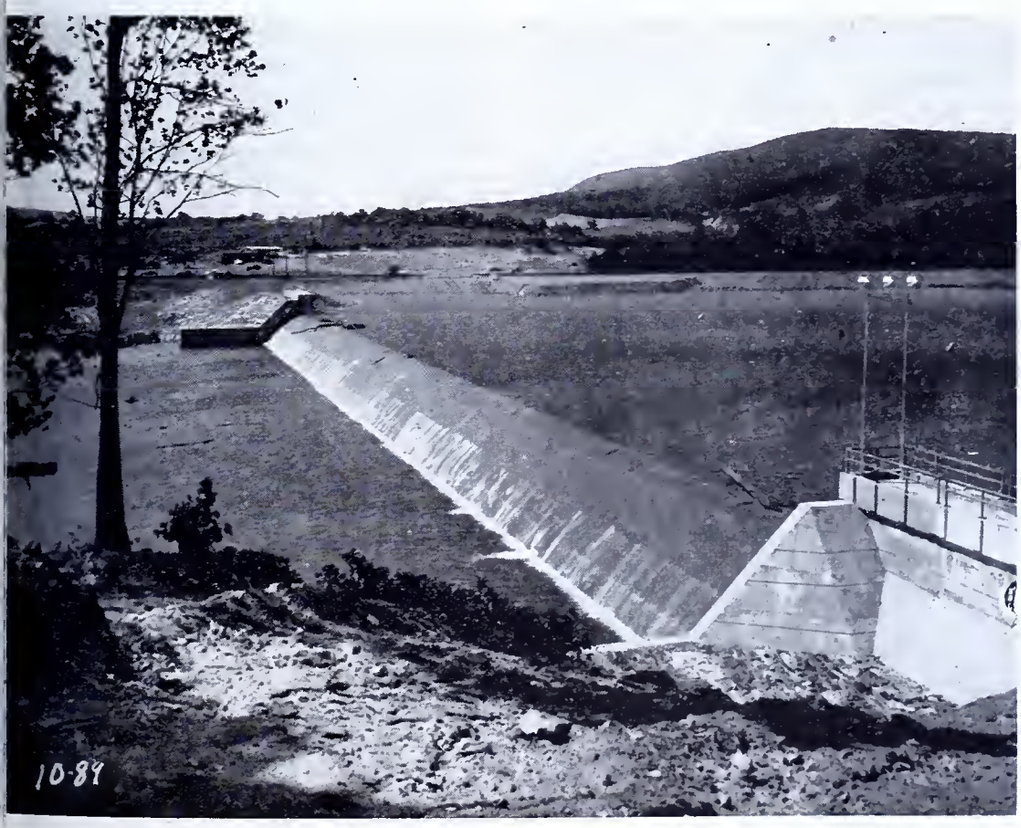
Then, we recall, just four sh years ago, a stout-hearted Attorr General, James H. Duff, refused to guided by the wishes of a "chosen fe and listened, instead, to the pleas the public—the voice of the *"aver guy."* He determined to solve one the toughest problems of our mod civilization and industrial world. determined to clean Pennsylvan filthy streams for *all* of us—for hea and recreation of the people of Commonwealth. In his determinati he enlisted the aid not only of oth in our Pennsylvania legislative a administrative bodies, but he also s cessfully appealed to industry, as w and, with the help of his aides, in tu overcame powerful and seemingly surmountable obstacles on the w As an outstanding proof that such v the case, we are daily more th heartened by reports from all corn of the State indicating that the rep sentative industries of this Comm wealth—those industries to which owe our high place among the for eight states of these United State are not striving simply to make br and butter for themselves and for for today. They are, as well, sta ing fairly and squarely behind

Kernsville Dam: From left bank looking along dam under construction.

an streams movement; for they ow that CLEAN WATER is vital t only to *health* and *recreation* for of us, but to *industry* itself in the ars ahead.

Little wonder, to be sure, that Judge dner labels Pennsylvania's stupen- us anti-pollution project as "system- c, by water sheds and even ahead schedule." At this point permit me inject a warning—and I know my oughts are the thoughts of many as say this. When one who has fought clean streams for us for years, as dge Ladner has done (and many those years, we recall he fought most alone)—yes, when he finds that eat forward strides are being taken Pennsylvania's anti-pollution battle today and when he cautions us not to become overly-zealous or impatient at this time—I believe that you and I would do well to refrain from impulsive action that might be harmful to the cause and that might, as he puts it, dishearten those who have been the greatest champions of the clean streams cause.

In conclusion, may I add that as we become fully aware of the fact that the Schuylkill flows green again, we are also cognizant of the more important and related fact that not only the "outdoors people" among us today, but every man, woman and child of today and tomorrow has and will have ample cause to be grateful to those of Pennsylvania's present administration who are successfully fighting the clean streams battle of this Commonwealth.



Kernsville Dam: From left bank looking upstream into dam, completed.

CLEAN STREAMS ON THE AIR!

Use of an airplane to check possible violations of the Clean Streams law in bituminous coal strip mining and to determine if the orders issued under that law are being complied with has been established by the Sanitary Water Board. This method of patrolling has been used as an experiment and found to be successful and now plans are being made to make weekly survey flights. The operations center in the Mine Wastes Division of the Bureau of Engineering, State Department of Health, which is executing the anti-pollution drive. Principal offices of that Division are in Greensburg. The plane and pilot are provided by the Aeronautics Commission of the Penna. Department of Commerce.

The flights will be made by the engineers of the Mine Wastes Division and will check all conditions existing at the operations surveyed from which it can be established if there are any violations of the law or non compliance with conditions stipulated by the Board in issuing the permit for the stripping of coal. It has been found that by surveys from the air the patrolling job can be greatly facilitated in that not only is much time saved but a complete survey of all existing conditions can be made more readily from the air.

Clean Stream Campaign Rolls Merrily Along

Permits approving plans and authorizing construction of sewerage works have been issued to an additional seven municipalities and two industries under Governor Duff's Clean Streams drive.

The permits have been issued to the following: York, sewage treatment works to provide complete treatment; Greenville, Mercer Co., outfall sewer and appurtenances; Geistown, Cambria Co., comprehensive sewerage plan; St. Marys, Elk Co., intercepting sewers and sewage treatment plant to provide complete treatment; Whitehall, Allegheny Co., sewers; Penn, Westmoreland Co., sewer; Mt. Penn, Berks Co., addition to present sewage treatment works to provide complete treatment; General Motors Corp. Fisher Body Division, West Mifflin Borough, Allegheny Co., sewage treatment works to provide intermediate treatment; Westinghouse Electric Co., West Mifflin Borough, Allegheny Co., sewage treatment works to provide complete treatment.

IN THE MAILBAG!

Writes Charles S. Dale of 255 N. Marshall St., Lancaster: "During the past season I caught 24 catfish, 9 suckers, 54 bluegill, 4 carp, 9 bass, 1 yellow perch and 12 rainbow trout. One of these rainbows measured 22½" long and was the most beautiful fish I have ever seen in local waters. I write to inform you that all the fish were returned to the water unharmed including the large trout and excepting only the 9 suckers which I did take home. I enjoyed the season immensely and had just as much sport returning them to the water as I had taking them. I am hoping that I may have one or more of them on my tackle this coming season. Would that other fishermen who are interested in conservation would look upon fishing as I do."

THIS YEAR TRY ICE FISHING

By DON SHINER

There's no "off season" for the angler. With a slight change in technique the angler can continue his fishing even through the winter and have some delightful outings until the time is at hand again which warrants taking the fly rod, reel and flies from their moth-proof container.

For most of us, the fishing season is extremely too short. Counting the bad weather week ends, the times when other obligations must be met and the occasions when the fish refuse to cooperate, we find the season of warm weather angling passing entirely too quickly.

However, to make oneself familiar with ice fishing, the angler can enjoy himself during the long wintry months, not to mention the pleasing catches of fish quite frequently involved. Keep in mind that real enjoyment from ice fishing can only be thoroughly enjoyed if you are properly dressed. Too many would be ice-fishermen wear too many or too few clothes, as a result become thoroughly chilled and end up swearing never again to venture out of a warm house until spring.

A pair of heavy underwear, woolen breeches, one or two wool shirts and a wool or canvas hunting coat and cap will keep the angler quite comfortable. By all means keep the feet dry and warm. Many sportsmen claim if their feet become cold, they are cold all over. This is not merely imagination but is actually a fact. Cotton socks with a pair of woolen ones over them, a sheepskin shoe and arctics will do the trick nicely. Mittens are by far better than gloves (with fingers) for hand warmth. Add to this a pair of sun-glasses and most every outdoorsmen can be as comfortable as if he were at home reading the ANGLER in front of his fireplace. One other thing that should be mentioned, if you can't take heavy woolen underwear against skin, use cotton long-johns if the weather is somewhat mild.

Now that the matter of being dressed for the sport is taken care of, let's look into ice-fishing and see what there is about it that can interest the angling fraternity.

If you are after pike or wall-eyes, tip-ups with live minnows are perhaps the best bet. You can use simple homemade tip-ups such as the umbrella-rib or the cross-stick type. There are also commercial tip-ups which are practically trouble free. With these, the reels are suspended under water and the fish pull the line directly from the spool. There is no chance for this type tip-up freezing thereby increasing the chances of capturing the biting fish.

Somehow I have always preferred the umbrella tip-up after numerous trials with various other devices. These can be made in a short time; are inexpensive and practically trouble-free if the fisherman is at hand to clear the skim of ice that freezes across the hole. If an umbrella has gone out of service during the year simpl lay it aside until the first frost appea and then set to work making the ri into tip-ups. As the illustration sho the brace which originally held t rib outstretched when the umbrel is open, is inserted in the end of board or stake measuring approx mately 1"x3"x15". Cut the other e of the stake to a point so that it c be wedged in a small hole leaning a slight angle over the ice hole c for fishing. Pack the chips of ice a snow or pour water around the sta and it will soon freeze thereby ho ing the stake solidly in place. Abo 1/3 the way down the stake atta a free running reel by means screws. If the reel has an adjustab drag by all means set it so that it free running. This will allow the fi to have line at no excess drag. A that remains to be done is a flag ma of cloth or tin should be fastened the one end of the rib. Paint this fl bright orange or red making it clear visible when outside in the whi surroundings. The other end of t rib, solder a tip-top. The line is r quired to be threaded through t from the reel. Then as soon as t bait is touched and pulled a sho distance, the rib will be pulled do and the red flag will go up indicati to you that a fish has seized the ba The pivot or fulcrum, that is t point where the rib is pinned to t brace, should be kept lubricated that it does not freeze. A small weig should be attached to the flag causi it to stand downward. However weight (washer will do) can be plac around the rib between the flag a pivot so that when the flag is pull upward the weight will slide do the rib to the pivot, thereby holdi the flag erect.

Be careful when chopping a h in the ice that you do not beco overheated. Use a chisel or ice cutt and go at it leisurely. Chop or chi the hole so that the edges are bevel under. This will prevent a fish fr cutting the line when it pulls it und the ice and rubs the line over t sharp edges of the ice hole.

Minnows are the best bait for pic erel, perch and walleyes. Hook t minnows either through the lips lightly under the skin behind t dorsal fin. You can place a sm cork on the line some distance abo the minnow thus holding the minn at a certain depth from the botto If no strike is had after a half ho raise or lower the minnow.

Don't mistakenly think pickerel a

Members of the fair-sex can join in on the fun!

luegills and crappies are on the feed too and ɔrisingly nice catches can be made during h winter.

vlleyes are the only fish that will ɔe during the winter. Far from it. Bıegills, cappies and perch are on ɪ feed too and surprisingly nice ;ches of these fish can be had when school is located.

A tip-up can be used with bait ch as larva worms or other baits ıt can be secured. Another method n be employed, called jigging.

Here a spoon or weighted imita-ın fly (wet or nymphy fly) or simi-r lure is attached to the line and e line tied to a short stick. The tip nt of a fly rod, plain or fitted into me sort of a handle, is ideal. Use ly enough line that the lure touches ttom. Jerk the spoon upward and en allow it to flutter back down to e bottom. Often the strike comes nen the spoon or fly is fluttering wnward, therefore you must be ick to respond. You can vary the eed and length of the jerks and vary e action until a fish is attracted to The pan fish are willing feeders in e winter time and are not inclined allow a tempting morsel of food to cape unnoticed.

Most fish are likely to be schooled ɔ in the winter. If you do not get sults in 10 minutes at one hole, ove on until a school is found.

Oftentimes the frozen lakes and ɔen stretches of ice are quite breezy nce the wind has a clear sweep with ɔ obstructions. For a wind breaker, nbleached muslin, canvas or even ylon from a parachute does a nice ob. The nylon is light to carry and ın be practically rolled up into a nall ball that can be conveniently arried in a pocket.

The best wind breaker is about 6 . high and about 18 ft. long, set in a orse shoe shape. Cut a few poles oout two inches in diameter and set nese in the ice. The cloth can then e tied to them and the area within ne horseshoe will be nearly as com-ortable as a den.

You can go one step farther and construct a small wood hut or shanty. Transport it to the lake and slide it across the lake to the desired location. The shanty should have no floor and numerous holes can be cut through the ice depending on the size of the building.

Often when inside a shack such as this, with little light entering other than a small window, the angler can see through the water and observe the bottom, marine life and any fish in the vicinity.

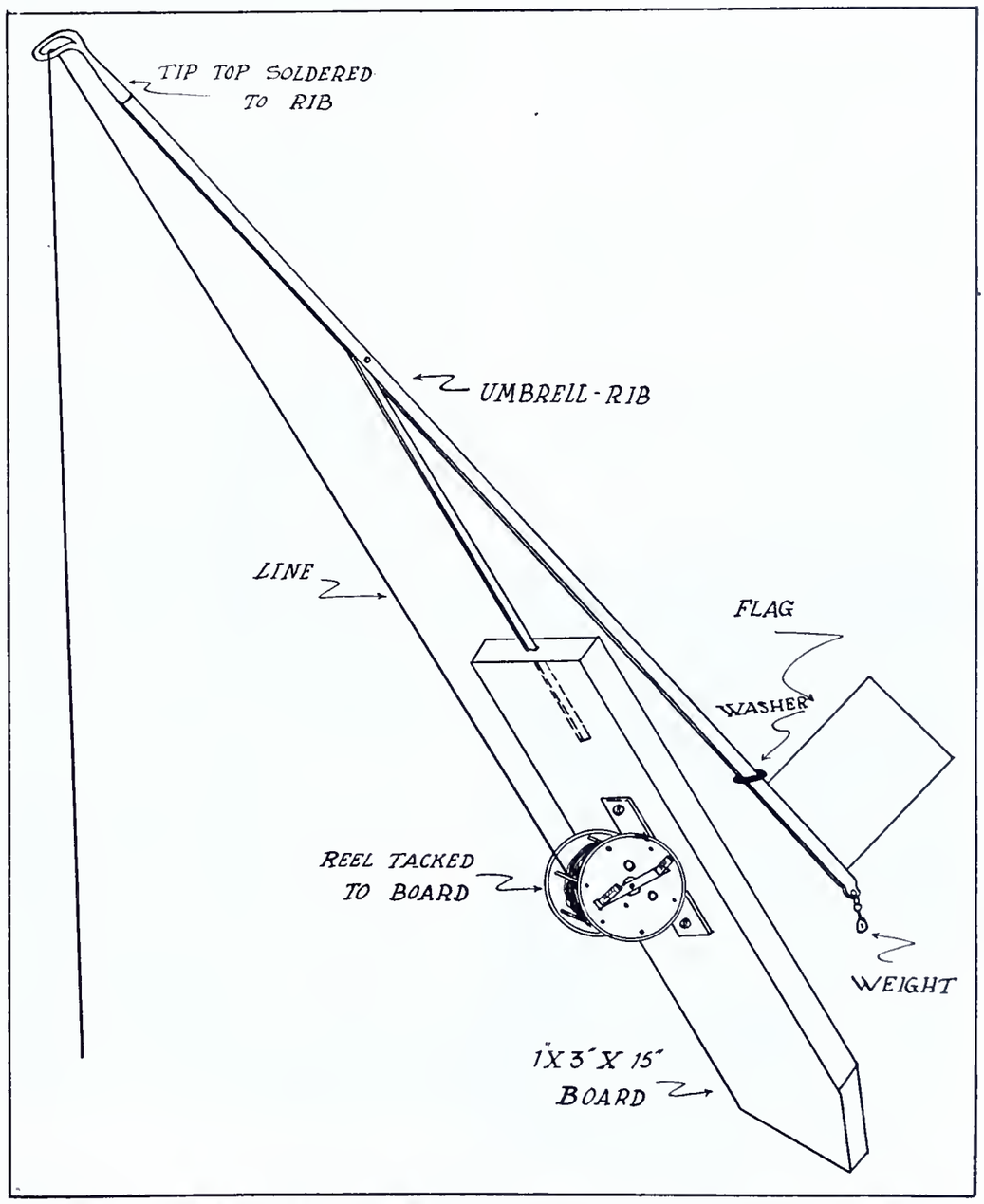
On occasions when the light conditions were right, I have been fascinated for hours just observing the schools and actions of fish as they swam by the hole. A great deal of knowledge can be obtained by watching the fish in this way: their methods of approaching the bait; how they accept it; their reactions when one of the school is caught, etc. You can gain a wealth of knowledge in this way and can apply it when fishing during the warm weather season.

Often I have observed pan fish being attracted to my bait and in the next instant they would disappear. Soon a long greenform (pike) would coast into view and was the reason for the sudden departure of the school.

Yes, ice-fishing can be a pleasing experience and pastime.

Bear in mind that fish such as pickerel spawn in the early spring. The adult females are carrying eggs and if too many females are captured our future supply of fish may be seriously cut. Keep only a few specimens and those which are heavy-bellied return to the water as undoubtedly it is a female. You will be doing a great service to yourself and to your fellow anglers by allowing many of the fish to spawn during the coming spring. Carefully unhook the ones that are not fair in size and stop before the

(*Turn to page* 23)



A tip-up made from an umbrella-rib is inexpensive, practical, and easily made.

POWER or PLEASURE

By KEITH C. SCHUYLER

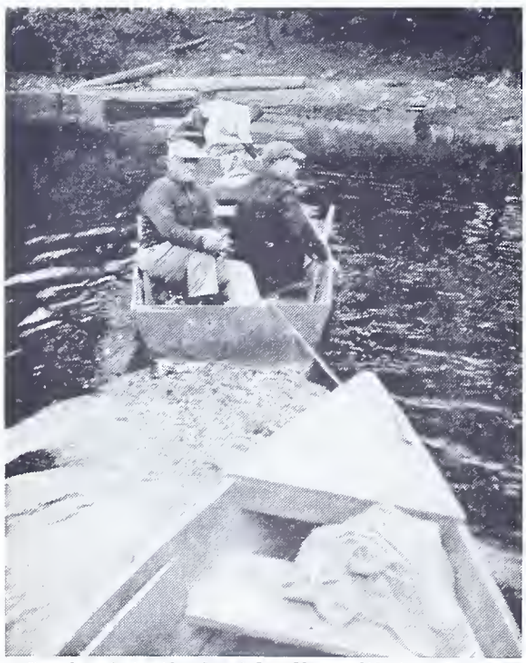
There is a variance of opinion among fishermen as to whether an outboard motor is good or bad for fishing. Certainly, there are times when an outboard is bad for the tempers of fishermen.

One school of thought on the question holds that the operation of an outboard oxygenates the water and is conductive to good fishing. Since the amount of oxygen present in the water is an important factor in the activity of fish in general, these students maintain that a few fast runs with a motor will start the fish bitting.

The cons, on the other hand, maintain that any blankety-blank double blanked fool that comes near them with an outboard will get a set of gang hooks sunk six inches over the barbs into their epiglottis.

Now, if the pros and cons will quit glaring at each other for a few minutes, we'll attempt to inject a bit of sober reasoning into this argument. And, we will take up some other aspects of the use of a boat motor that deserve weighty thought.

First of all, whether a boat motor is either good or bad for the fishing is undoubtedly a debatable question. Certainly the uninhibited ripping and tearing around by some of our all too familiar water jockeys is not going to drive the bigger and smarter fish to the lure. However, slow trolling with a motor has resulted in some fine catches and is a convenient way to fish. In fact, it is sometimes referred to as a "lazy man's" way to fish.



Coming into the boat landing with two in tow. My boat is swinging because I had just moved forward to get the camera.

The primary purpose of a boat's motor, nevertheless, is not for fishing. This takes us to a second consideration. Motors were designed to move a boat rapidly from one spot to another to save time and labor. No one who has ever used a motor wants to go back to rowing when it comes to covering long distances. And, speaking from strictly a piscatorial standpoint, it is sometimes necessary to travel relatively long distances to get to the best fishing.

But, since your distances are actually seldom very long as the crow flies, the question is just how fast you need to get there. With the exception of the ocean and your very largest lakes and rivers, there is seldom any need for great speed. And, when such need arises, you generally employ the services of persons who have the larger equipment to get you to where you want to go. More important, boats intended to operate in "big water" are, or should be, equipped with safety devices necessary to such a venture.

Therefore, our case narrows down to the average person like you and I who just buy an outboard to carry in the trunk of the car to our favorite fishing spots. Since we usually find a cabin or pitch camp near to the best fishing, we do not often discover ourselves more than a few miles from the farthest point at which we expect to fish. Anyway, a person with a motor is often tempted to go far away from camp seeking his sport when many times the best fishing is within casting distance of the frying pan.

Frequently, we go to a river or small lake. During the fishing season there are others who angle in the same waters and we will pass and be passed by these fishermen many times. Even if we are on one of the larger rivers or lakes, the fishing spots are usually so arranged that we will be passing near to other fishermen.

There is nothing more disturbing than to have another boat tear by you when you are peacefully fishing some favorite nook. If you are bait fishing, your boat weaves and bobs against the anchor after the other boat has passed. You can't tell if that was really a fish starting away with the bait or just the drag of the line caused by the pitch of your boat. You glare, swear and bite off the end of your favorite pipe. Or, if you are casting a fly or plug, the quiet little spot back in the brush or rocks suddenly becomes a slapping, splashing froth of angry water. You glare, etc.

If you are unable to swim a sitting in a narrow rowboat or can the situation can become downrig dangerous.

Of course, you are one of those f lows who slow down when you a forced to pass another boat, and y can see that there is very little d turbance between you and the strang as you pass. What you don't see, ho ever, are the huge waves that co tinue from where you slowed yo motor and build up again when y shove the throttle ahead after passi Well, yes, but you can't travel at tro ing speed all day if you expect to g down to the spot where you caug the bass yesterday. So, you at le showed the other fellow that you ha some consideration for him.

Some states have definite laws co cerning how close you may pass another boat. For instance, in Per sylvania the law reads: "To opera a motor boat more than eight mi per hour within one hundred feet shore, or within one hundred feet a buoyed fishing ground, anchor fishing boat or pleasure craft, chan or bathing beach is unlawful."

All right, we have a problem. We like to use motors on our boats, b how are we going to be as considera to the other fellow as possible witho interfering with our own pleasure t much?

First, we can do as the fellow abo did. Slow down your motor to pa another boat. But, don't wait until y are almost on top of the other boat retard your throttle. Waves carry lo distances on open water. You can't g by without causing some disturban but take as much precaution as po sible to protect the other fellow.

Secondly,—Say, just how big motor are you using?

This past summer I spent four da on a lake in Ontario fishing for pil

Using a 3.2 mercury on an airplane fab covered kayak, Jack starting the outboard.

ving fished there a number of times ore, I asked for one boat in par- clar. The owner said I could use it il the weekend at which time he uld like to have it for use by an- er party that would be coming to same camp. I must have looked nappy, for he explained.

This fellow always brings a twelve se power motor with him, and this he only boat that will stand the atment he gives it."

He then showed me what the big tor had done to one of his other ts. Several of the ribs were cracked npletely in two, and the boat leaked a sieve.

he newcomer and his big motor ived on schedule. In the meantime, strong breeze had arisen. Out he nt with the motor wide open, and ut the only time that the bottom that boat was all in the water was en it was at anchor. All over the e you could hear the heavy slap he boat bounced from one wave to next and the shoreline continually oped as the heavy waves washed skirt.

Iow big a motor am I using? Well, sked you first, but I don't mind wering.

have a little three horse outboard popular make that provides all that eed in the way of power on my ing grounds.

This little motor weighs but twenty- ht pounds and fits easily into the rage car trunk. It will run con- uously at top speed for over an hour a gallon of gasoline. It is ideal to ry in an airplane because of its all size and light weight. And, it l pull like an ox.

On a recent trip, there were five of in the party and we spent six days a Canadian river. The odd number essitated three boats since fishing re than two to a boat is impractical any time. At first, we lashed the ats side by side and the little motor shed them along at a good rate. en we tied the boats in train and even more speed.

One of our favorite fishing spots was forty minute run from camp, and nost every day we made at least e, and sometimes two, trips to that pt plus considerable running around between times. During the six days used approximately six gallons of soline and oil.

Incidentally, one caution in pulling ats in train is to make sure that most the weight in each boat is placed ward the stern. If there is too much ight forward, it not only forces the ow deeper into the water creating ore drag, but the boats will whip ck and forth making any good ogress almost impossible.

I have never used a motor of more than about three horse power, and I have never found the need for a larger one. True, there have been times when a larger motor would have saved a little time, time that I had already chalked up to vacation and pleasure, but for the most part the little motor has seldom been found wanting.

There are so many advantages to a small motor that I would never consider anything larger for routine fishing. At a moderate rate of speed you are less apt to do serious damage to the motor if you should hit an underwater obstruction. It takes up comparatively little space in the car trunk or airplane luggage compartment. It will not drive the average boat at a speed which will be injurious to the boat. It can be fitted to a heavy row boat or a canvas kyak (such as we have used for years.) There is little chance that the small motor will rip out the back of the boat causing damage and possible loss of the motor. It will get you where you want to go, quietly, efficiently and at a speed which precludes serious accidents. And, you will be welcomed back by the boat owner.

If these aren't reasons enough, consider the cost. You are probably just an average fellow like myself. Some of the three horse power jobs can be bought for well under one hundred dollars. Since the usual running time per year is likely less than your wife runs her sewing machine, why pay for a lot of power that you can seldom use?

All major outboard motor companies are coming out with smaller and cheaper motors each year. Yet, they are efficient little fellows that will do the job and do it well. Outboard motor sales are soaring. In Pennsylvania the sale of outboard motor licenses caught the department of revenue flatfooted when applications for 1949 by the middle of the summer had already exceeded total sales for 1948, and it was necessary to issue receipts in lieu of the regular paper certificates.

If you want an outboard for fishing, pick one that will fit your car, your pleasure and your pocketbook. Actually, the effects of a motor on fishing is of little consequence. A little consideration for the other fellow, the equipment you are using and your personal welfare are what count to insure many hours of enjoyment on the water.

WARREN SPORTSMEN REORGANIZE

At the annual meeting of the Warren Fish and Stream Club held January 10, 1950 the following officers were elected: Frank L. Reese, President; Curtis F. Sasserson, Secretary; F. M. Geer, Rep. to Warren County Alternate Representative.

BERWICK SPORTSMEN HONOR BURGESS

At a recent meeting of the West End Hunting and Fishing Club of Berwick, Chief Burgess R. C. Culp was presented with a giant membership card. The presentation was made by Wilbur L. Stephens presented in recognition of the fine work done by Burgess Culp in the local field of conservation.

Reading from left to right are: Roland Davis, Treasurer; Burgess R. C. Culp; Wilbur L. Stephens, President and Frank Litzel, Secretary.

TACKLE BUSTER OF HIDDEN LAKE

By RICHARD L. DOLTON

My first introduction to the Tackle Buster came in July, and because the fishing was poor.

Early in the morning I had started out with the high hopes with which all trout fishermen greet a new day. After working out on two of my favorite streams using everything from the lowly worm to the aristocratic dry fly, I still had no fish worth keeping. A few trout had come my way, however none of them would have gone much over the legal limit of six inches.

While eating lunch I pondered over the cause for the trout's lack of interest. Many reasons entered my mind. Perhaps the water was too warm, but then I had fished some spring fed holes with no results. Perhaps my terminal tackle was not fine enough, or perhaps the trout were just not feeding. Laying back under a shade tree with my belly full, thinking along these lines gave me plenty of contentment, but no trout in my basket. Finally I bestirred myself, and decided to give the Hidden Lake a try although I had not fished it for six years.

Hidden Lake is not really a lake, merely an old abandoned reservoir. To me however, it has always been a lake, and will always remain so. The little body of water is surrounded by forests on all sides. Few fisherman know of its existence or potentialities. The trail that leads into the area is little longer than many fishermen like to contemplate, and oftimes fishing is discouraging. These factors plus the fact that most of the trout are small brookies have saved it from onslaughts by armies of fishermen.

Most of my fishing at Hidden Lake has been done to escape the heat of the sun along the more open streams. Also to supply a few nice brookies for the little woman's larder, as a possible excuse for going fishing again in the near future. This was my thought today.

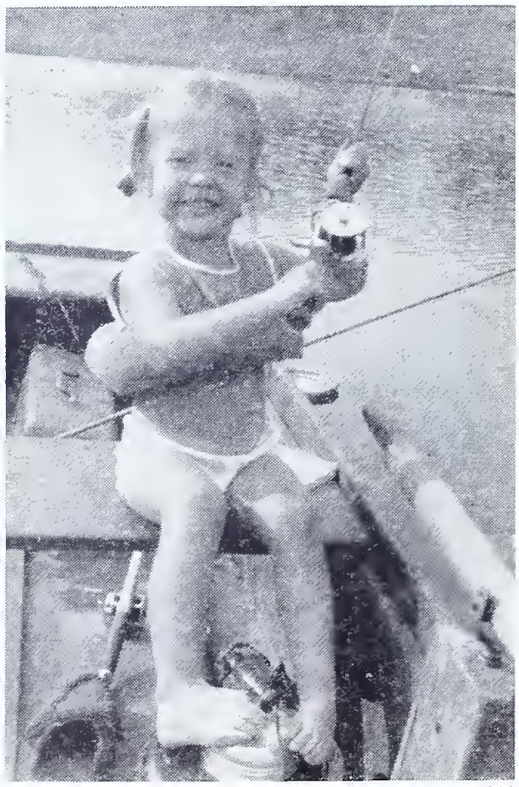
I soon had my tackle rigged, and was fishing from one of the few spots that you can wade in the water. One side had a bar that is suitable for wading, two other sides drop off into deep water, and are lined with thick brush that makes casting an impossibility. The remaining side has a bar of thick soft mud. An ideal place to prove the old adage of returning home with a "wet ——, and a hungry gut."

The trout were not rising and were not susceptible to a dry fly, so I bent on a wet black gnat. On the first cast I tied into a nice ten inch brookie. In a short time I had three of his brothers in my creel. Tucking my rod under by arm, I proceeded to fill my pipe before heading for home. Just as I closed the tobacco pouch there was quite a splash over near the opposite bank. It was just a little too far away for me to make out what it was. As I had enough trout for a mess I decided to investigate.

Gaining the bank I made my way toward the disturbance. As I approached the spot where the commotion had taken place, I stopped and peered into the water. What I saw almost took my breath away.

There in the clear water, swimming lazily toward me was the biggest brook trout that I had ever seen. After a few seconds my heart started beating again, and my eyes came back to focus. There he was in all his glory, "The Tackle Buster."

He swam to within about five feet of me, then turned back toward one corner of the lake which is exceptionally deep. I watched him for about half an hour and decided that this was his hangout. Beneath the water I could distinguish a tangle of old logs, a perfect hideway for an old codger like this fellow. He never cruised more than twenty feet or so away from this corner. Once I saw him swirl in pursuit of a minnow. He appeared to be 18 or 20 inches in length, and highly colored. Now a brown trout or rainbow this size is often caught in this section, but a brook trout of native origin, never, or at least none that I have heard of.



Brimful of enthusiasm, Judy Sarver, aged 2½ years and who lives in Allison Park, Pa., proudly typifies the fraternity of fishermen. The ANGLER wishes Judy a pleasant fishing future.

After watching him a while longe I decided on my strategy. Routir through my fly box I finally decide on a squirrel tail with a red body th I had tied myself. I changed to a 2 leader, being afraid to go any coars because of the clearness of the wate As soon as the trout had turned ar started back for his corner, I pushe by rod through a hole in the brus By side casting I was able to drop fly in front and to one side of the o boy. I retrieved rather fast, but nev had a touch. The next cast I plac well into the corner of the lake a waited for the fly to sink before started the retrieve. The old gentl man must have been waiting at t entrance to his den watching for t strange intruder. Just as I started retrieve I felt a tremendous shock l my rod, and I was fast to a packa of fury.

At the first bite of the hook my tro started out straight across the lake a there was no denying him. The r protested loudly, and the rod arch but still that dreadnaught took li from me on his run. Slowly I beca aware that I had little line left on t reel. The trout would have to turned. Carefully I put the pressu on, hopeful that the light termi tackle would hold until the big b turned. His purging ahead slacken and finally he turned, rushing ba to his corner then sulking. The su ing spell gave me time to get nerves under control, also to study surroundings. In front of me v about fifteen feet of water, on b sides, and to the rear, a wall of bru I broke a few pieces of brush away either side of me to provide a li more room in which to work. Fina I started to work on the buster to him out of his sulk. I succeeded, a was immediately sorry, as both nerves and blood pressure went out control. At no time did the old fell break water, just lunging rushes lowed by periods of sulks, then m lunges. After what seemed an et nity he started to tire, finally roll over on his side so that I could his entire length. With trembl fingers I loosed my landing net worked the buster in toward it. ready I was counting the glories t would befall me for catching suc fish. Taking for granted that the tr was licked was my undoing. As I b to slide the net under him he g another surge, and line screeched the reel again. I dropped the lanc net in order to fight it out again, the buster had other ideas. Inst

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SWAMP WATER

By ALBERT G. SHIMMEL

The dead pine, sentinel of the shallows, stood knee deep in the fog. Its silhouette against the pulsating colors of dawn. A great blue heron slipped from its topmost branch and set his ghostly way to his favored reef, where the lilies spread their leaves over the surface of the water lifting their white and pink cups to scent the fog with an almost overpowering perfume. Settling at the base of an aged pine stump he froze into the watchful attitude and stillness that seemed to change him into one of the gnarled roots. The heron held his place as the sky colored and brightened into full day. The aspect of the changing color and panorama was of no importance as the feathered guard narrowly watched the pads within striking distance of his rapier bill and thought—big.

The mist burned away before the golden finger of the sun as it climbed above the dark prison of interlaced pine and hemlock branches. Rana the frog felt its warmth and sprawled luxuriously on his pad beside a fresh opened lily-cup. Beetles, flies and moth made active after the chill of night would provide food for him without the necessity of transporting his portly bulk to other hunting grounds. His green coat blended nicely with the pad and the shadow of the pink cup that would provide his breakfast would be a comfort as the day came on. Rana blinked his eyes and settled himself comfortably to wait the fortune of the day. His paunch rounded from good fare that had been his, caused his vigilance to be relaxed.

Esox the pickerel moved from his weedy tunnel like a lean shadow. The water stained by the swamp coloring subdued his golden sides and chain markings to match the olive light reflected from weedy stems and gray black slime of the bottom. At the edge of the cove he paused. A milling black cloud of tiny catfish sucked at the rich ooze that covered a sunken branch. Below lurked the black shadow of the guarding parent patroling the edge of cloud. Drifting with barely a motion of his pictorals Esox came within striking distance and paused. The parent stopped for a moment at the edge of the weeds finding a succulent morsel to satisfy its inner hunger. Esox flashed through the milling cloud, scattering them like leaves before an autumn gale. His armed jaws gathering a dozen of the tiny bits but they served no more than an appetizer for the lean hunger that was his. Behind in the cove the black guard gathered again the milling cloud of remaining young and moved them slowly into the sun-warmed shallows with the infinite patience that is the heritage of the wild.

As he cruised the edge of the sunken weed bed a golden shiner searching for nymphs had forgotten for an instant that danger might be near, formed a perfect target for Esox's slashing jaws. The shiner leaped for the surface but disappeared, with a boil breaking the water to mark his end. The chain marked shadow moved more slowly, the edge of his hunger dulled but not stilled.

Just ahead the surface ringed slightly as down through the dark water sank an object oscillating golden flashes of reflected light. Esox thought shiner, and hurled himself forward almost closing his jaws, but something warned him aside and he sank swiftly. Again and yet again the copper spoon fell, wiggled and twisted its way toward the hidden caster but not another indication of Esox could be seen.

Deep in the water he lay, the shadow of the spoon and its flashing brightness urged him to strike but another deeper instinct punctuated by a livid scar on his right jaw and gill plate warned him to keep to the depths until the danger passed.

Gradually Esox came to the upper layers of water where the slanting rays of the rising sun warmed it to the extent that he lay motionless. A drifting shadow blotted out the sun, caused him to sink once more to the depths. He resumed his slow cruising to where the water lily roots thrust scarred toes into the muck and raised hose like stems to the leaves and fragrant blossoms above. The unsatisfied hunger drove him deep into the shade of the cool pads which he scanned for the telltale movement or shadow that would spell frog. Fate drove him to the very pad where Rana the frog waited for the endless procession of insects that came to his particular lily cup. A low flying blundering beetle came within range of Rana's tongue and on an instant he snapped it up and blinked comfortably. Slight as were his movements they caused the pad to vibrate slightly. The movement and the shadow were all the hint Esox needed. With a savage fury that was not all hunger, he flung himself open mouthed, at the shadow on the pad. Rana leaped for the pine root and the needle armed jaws closed on nothing more nourishing than the edge of the leathery pad. Rana settled himself in the brown roughness of the pine root to allow his composure to return, unaware that he was within range of the herons stroke. The blow from the rapier bill fell so swiftly and surely that Rana passed without a chance for his life.

Esox drifted slowly through bay and inlet resting as the water warmed under the overhead sun and resumed his cruising as the rays slanted more and more to the west. A few shiner fry were all that came his way and his hunger once more drove him to the pads. A sunken log with one end projecting above the water made an excellent hiding place as he champed his jaws again at the proddings of his hunger.

Announced by a slight vibration of the log it fell, gleaming with white succulence, green back with a touch of crimson at the fore. Struggling its enticing way from the log toward the outermost pad. Esox struck almost lazily grasping the soft pork chunk he sank toward the bottom. Suddenly the morsel in his armed jaws seemed to stiffen and a stinging resistance clamped fast to his upper jaw. Maddened he twisted right and left then flung himself above the surface.

From the boat pushed deeply in the weed bed came a whoop of excitement. The boy stood up holding his fathers light casting rod high above his head and as Esox shot high at the edge of the pads another shout escaped the lips of the happy youngster. Twisting and turning Esox shot for deep water while the boy fought frantically for control of the reel handle. Then as he stopped the rush the water swirled again but the power was going fast from the large chain marked sides. Holding the rod high the boy again fought him in, keeping the line tight against the dwindling force of the pickerel.

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KILLERS OF INLAND LAKES

By JACK ANDERSON

They grabbed the lures like tigers, bumping line from the reels in savage sounds for bottom, following with exhibitions of sulking, high-diving, wrenching and zooming. Charley Kane, our Indian guide Danny, and myself, ignored the mist which crept from a gray, sodden forest. Why worry about dampness or fog when the pike were on feed on Wagosh Lake?

We had been busy since daybreak, when the first sway-bellied demon had snagged Charley's daredevel and stormed from a hole in the lake. Since that first fight there had been few moments when one of us was not hooked into a pike. We had carried a bottle of nail polish along for just such an occasion and had used it before noon to doctor up scarred and paint-stripped lures.

While Charley painted his lure again, he told me what he wanted.

"It's trophy day!" There was a cast iron look in his eyes. "The way these savage devils fight! What would a *real* pike be like?"

By a real pike Charley meant the den-size variety; we had a couple twelve pounders in the canoe. From then on, we made a joke of it. After each strike Charley said, "This ain't it!"

And when he struck and said nothing, I spoke up.

"Is this *it*?"

He grinned. "Naw. Snagged, darn it."

Turning as my reel screamed into the wet, misty silence, I nodded to Danny, whose face was expressionless under his black, dripping hat. "He's fast."

Danny gave up fishing rod for paddle and worked the canoe in a wide circle. Charley took up slack. Slowly I completed my retrieve and set aside my rod to give Charley a hand.

I picked up the long pole that Danny had cut from the Quebec forest. I slipped the forked end over the line and pushed it toward the lure. So far this stick had saved us a dozen lures, and I had great faith in it. But as the stick dipped into the vegetation-stained water, the line crept away. Charley and I blew gusts of surprise at each other.

I said, "What the devil!"

Charley gripped his rod and stared numbly at the mysterious, moving line. With crinkles under his eyes he hoisted the tip. I saw there was no "give." But whatever it was on the other end of the line was dragging with the current like a water-soaked log.

It was beyond our experiences and our mouths dropped open. Danny, watching, said nothing, as an Algonquin will. To me Charley and the unknown were waging a weird and unbelievable battle.

"Like trying to land the bottom of the lake," Charley grunted. "Must be a huge turtle!"

As he reeled in, I got the wide-mouthed pike net ready, just in case. Not until Charley muttered that it was a fish did I believe my eyes. I had caught a glimpse of the head. I sank the net, then waited.

Seeing a dark shape pass over white mesh, I whipped up. And in that instant, the battle *began*.

A terrific thrashing inside the net almost pulled me overboard. Gasping under an ice-cold spray, I lifted the pike into the boat. It was the heaviest fish I'd ever lifted. The struggle of it inside the net was like a man pulling on my arm. And on the bottom of the canoe a writhing, thumping mass threatened to tear the net into pieces. Danny leaned forward with a monkey wrench.

After a few cracks the fish was quiet and I was saying, "There's your trophy, Charley."

He screwed up his nose. "I'd never hang that cowardly old killer on my den wall," he growled. "Up till now had a great respect for pike. Now— He wagged his head. Sadly.

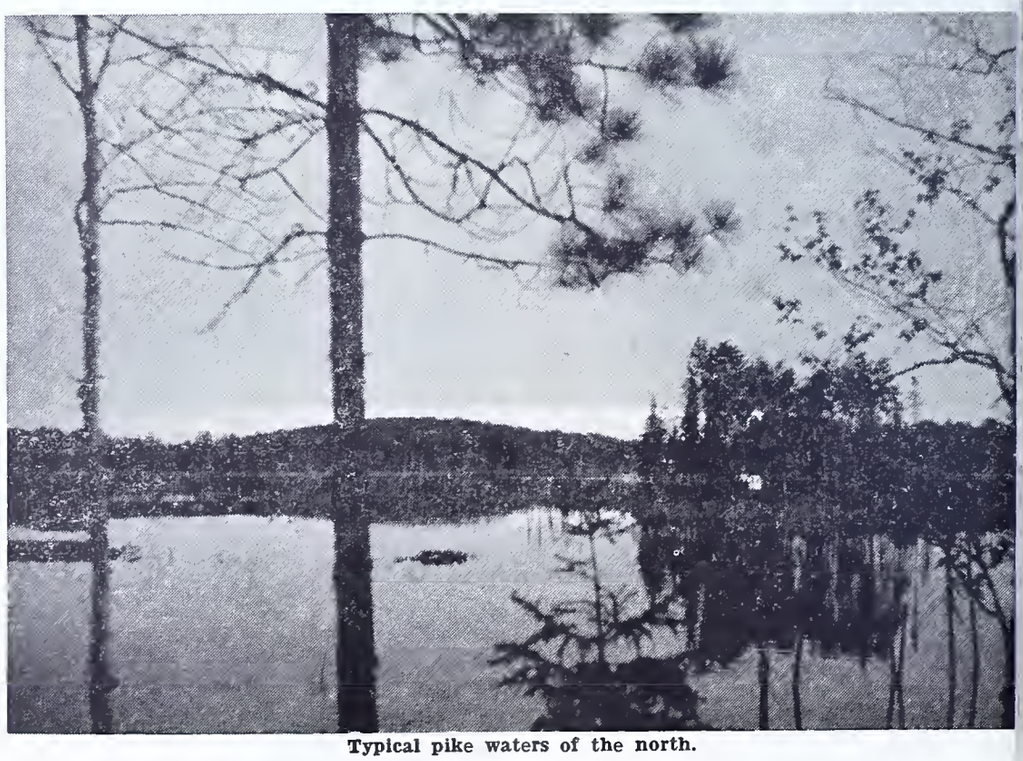
That happened some years ag Since that time Charley has change his mind to a degree. Sometimes think he regrets not having kept th battle-scarred twenty-seven pound as a trophy. He understands.

Like human beings, pike do n know when to quit eating. That o devil's stomach had been stuffed wi walleyes. And none of the walley had started to decompose, except f slight discoloration on one tail.

That pike hadn't felt like fightin hadn't been able to fight. He was victim of greed. That's the way pil are—born with an insatiable appeti and the strength and villainous hea to make the most of it.

The Pike Family is a family of v lains. Make no mistake about th They are the bullies of a lake. Th will fight anything and everythin Any movement arouses the desire kill. Being cannibalistic they wou destroy their own species if wee and shallows didn't hide the your Even with weedy shelter it has be estimated that the mortality rate f young pike is better than ninety-ni percent.* Although this estimate w for the northern pike it is the write belief that this could apply to t muskellunge and pickerel as well.

* "Egg Production of the Northern Pike" William F. Carbine. Institute for Fisheries search, Ann Arbor, Michigan.



Typical pike waters of the north.

Knowing this fact, it is no mystery t t members of the family, from the iskellunge to the lowly Mud Pick-el, travel alone. Any association uld result only in a fight to the ish. Like the most ruthless killers the human race members of the nily devote their lives to the satis-tion of wolfish greed: a devotion t calls for no companionship.

have made many observations, rd many additional tales, of wolfish-s and greed.

A year ago a friend of mine caught race of fine muskies in Michigan's rt Lake. One of them had a sixteen h muskellunge in its stomach; the er had a bird of some kind, al-ugh it was difficult to determine at kind. On this same trip he car-d back a story from the mouth of vithered Indian.

The story, ordinarily, would have n hard to believe. It told of a iskellunge attacking an otter. And d, further, of the otter giving up a that it had captured and fleeing for life. It was the sort of story that kes you wince. But then I looked at jaws of the muskies, the contents those long stomachs—and wond-d.

Up on Houghton Lake I'd seen a at northern pike strike at a wild k. At least that shall always be belief. Joe Grimes and I were lling at dusk, when that heavy cur-n is dropping over things and you l the damp night creeping into you. e loud splashing and terrified quack-of a mallard spun our gazes shore-rd. The mallard thrashed around in fountain of spray, and then arose, pping violently and complaining to twilight.

On Eagle Lake in Michigan I was ning tip-ups one blustery January ernoon. My flag snapped up and I dded over. There was a pike on, d I pulled him in, hand over hand. the hole I saw a mistake: the pike dn't swallowed the shiner as yet. t on sudden impulse I made a long d steady sweep with my arm. The eed of that pike was his doom! He uld not release his prey, and I pulled n out on the ice.

We were fishing for yellow perch on omised Land Lake, Pike County, nnsylvania, when Bob Nicer made strange catch.

He set his hook into an average llow perch, to begin with. Near the at, however, something struck idly. He was caught off guard and pt pulling in. A pickerel squirmed the top of the water, released the rch from its mouth, and watched th large, cunning eyes. Nervously b let the perch swim again. The kerel grabbed hold and went down. fore long Bob had a nice fight on his

Charlie and the great northern.

hands and ended up with an eight inch perch and a nineteen inch pickerel.

But, just as there is good in the worst human being, there is good in the villainous pike. The goodness springs from his fearlessness.

You fishermen know of this fearlessness. You know of pike who have struck treble hooks three or four times before getting snagged. There is an instance recorded at Swartzwood Lake, New Jersey, of an eighteen-inch pickerel jumping into a boat in its mad chase of a spoon. Musky, pike, or pickerel—there is little fear in the family.

Quite some years ago we were standing on a bridge across Saw Creek, Pike County, Pennsylvania. It was a lazy Spring day in the mountain country, with cool breezes sliding in for an occasional break in the warmness, with green bursting here and there, and with the gurgle of hidden freshets filling our ears. On such a day, with the last of the peepers busy in the marshes and the first robins strutting in the sunlight, you know your blood is thawing and you are aware of life and beauty.

Bob Nicer called by attention to the watersnake basking on a mud-caked rock below the bridge. In whispers we laid plans for his capture. There was a school of small fish swimming nearby and it was obvious that the snake was aware of them. He was twitching nervously. Before we could act he slid from his rock into the water.

"We can't get him now," Bob said. "And I've always wanted to see how those devils catch fish. Let's watch!"

But Bob never saw. We spied a green shape in the water. A Chain Pickerel. Possibly he had been watching the minnows; there is no telling. He lay motionless as a slender, mossy log. His two eyes, calculating, cold, and fearless, watched the slow, winding movements of the watersnake.

Breathlessly we saw this thin green shape spearing through the water. Fish and snake broke wildly on the surface. The small fish darted swiftly for cover. A storm of mud clouded our vision, only the whites of bellies sticking through. Gas bubbles shot to the surface. Then the pickerel shot into clear water, shaking the watersnake in his jaws. We could see the gaping mouth of the snake, could see its popping eyes.

There was no doubt about the outcome of the struggle, but we did not see the finish. The pickerel darted downstream into deeper water and we did not see him or the snake again. Whether or not he ate that snake we do not know. But we are satisfied that the pickerel was the hero that day—he saved the lives of some of those minnows.

Saved their lives—so that he could kill, himself.

Of course individuals differ, in the Pike Family as in any family of the animal kingdom. And species differ slightly. While the musky ranges over a small area and waits for his prey, the great northern pike is a hunter who knows no definite home. While the muskellunge and northern pike prefer cold, clear water, the pickerel seems to prefer brackish streams and shallow ponds of almost any temperature.

But the general character of the Family should be breaking into the clear. We have seen gluttonous appetites, the urge to kill, pugnacity, fearlessness, the love for roaming about alone.

In addition to these things, a friend of mine, who calls bass "the snobs of the weeds," claims to love the Pike Family for their simplicity. He says there is no understanding a bass. But offier a musky, pike or pickerel what he likes, says my friend, and get it where he is—

However, I do not agree with my friend. Something about the straight lunges and savage twists of a fighting pike suggests directness and simplicity, when compared to the more subtle tactics of bass. But here simplicity ends. There are days when musky, pike, and pickerel waters seem baren.

As there are also days when these fish run wild. Several times I have had the good fortune of being on lake or stream when this wildness broke, and believe me, it was a thrill.

These savage outbursts of feeding seem to be characteristic of the Family, and they may occur at any season and

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BASS EXTRACTION

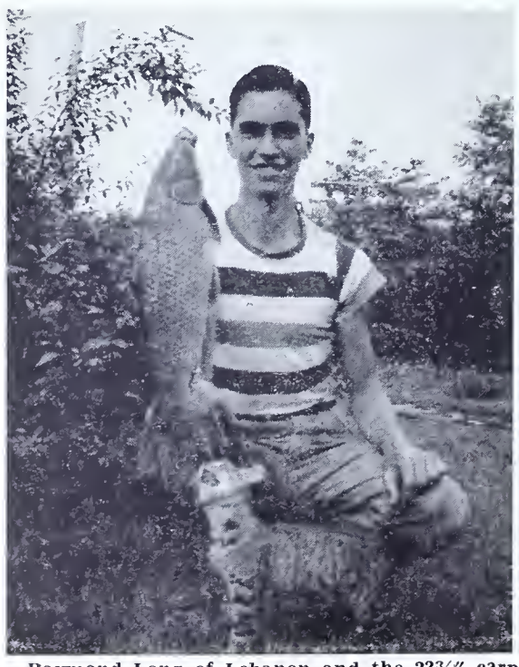
By HARRY P. ST. CLAIR

The first years of my fishing experience were confined to stream fishing for trout and when the season ended the last of July we put our rods away and calmly waited for the next April. Bass fishing was unheard of as the nearest bass water was over a hundred miles away. My tutor in the art of fishing was a man some twenty years my senior and in years past he had fished for bass in a river near where he was raised. We often talked about his bass fishing days and many times I wished by some miracle some nearby streams would become infested with bass. It had to be nearby as neither of us were coupon clippers and we had to work for a living and a day at a time was the most we could manage for fishing. Of course the streams did not change but as time marched on more and more improved roads were built and after a while the hundred or more miles didn't seem so far away and we finally planned a trip to the Allegheny River. I will never forget that first trip to the Allegheny, and not because of the *one* fish we caught but because of the trip itself. How we got lost on the country roads and wandered around in the middle of the night crossing the same bridge three times. And on the return how I had to stop every few miles and walk up and down the road or wash my face in a watering trough or a ditch to fight off sleep. Man! That was a tough trip.

That was the first of many trips to the Allegheny and as roads and cars improved we were apt to be found anywhere along the river from Kinzu above Warren to Baums' Eddy below Tionesta on any given week end during the bass season. Sunday fishing became legal and when a holiday came on a Saturday or Monday giving us two days in a row to go fishing. Boy! That was something. We loaded our tackle along with grub, stove and blankets and high-tailed for the river. When I say we I mean Wayne, my tutor and an "old master" with the fly rod, and Doc, a dentist, who joined our gang and took up fishing to get outdoors. After a trip or two with us he got a fly rod and soon became an excellent caster, but though his tackle was good and his tactics sound he couldn't catch fish. He flailed away and beat the river into a froth with no luck. But he was patient and persistent and about the second year he made connections. After that he caught fish along with the rest of us, and sometimes when the rest of us didn't.

This triumverate was active for a number of years but was eventually broken up about ten years ago when I moved from the state. In my correspondence with the boys I jokingly refer to the gang as the "Scientific Anglers & Ash Pile Sleepers Assn.," because for years we all used fly rods and flies and were joshed by the bait boys for being "scientific fishermen." And when we spent a night along the river we hunted one of those spots where ashes had been piled for use on the pavement in winter, the ashes were softer than the solid ground to bed down on, we called them "cinder mattresses."

I try to effect a reunion at least once each season and with this in mind and accompanied by my wife I went to the Allegheny last Independence Day. We got there about noon on the Sunday before the Fourth and drove along the river where Wayne and Doc were most apt to be but I failed to locate them. I learned later they crossed me up and went trout fishing in the Emporium area. So I went out on the river by myself that afternoon and picked up about a dozen bass but they were all on the small side, from nine to twelve inches. I kept two twelve inchers which we cooked for supper. After supper I fished a couple more hours and got two that were about fifteen inches long. We slept in the car and left there the next morning. I had not fished for trout for several years so on the way home I stopped and tried the Brokenstraw for a while and had the great luck to find a hole tha held about twenty trout. At first thought they were suckers, but a clos inspection convinced me they wer trout and I got busy with the fly ro and managed to take four brown trou of fair size before I had to leave whe the wife started to blow the horn. had fished about two hours. A ver successful trip I thought, but disap pointing because I did not meet th boys.



Raymond Long of Lebanon and the 22¾" carp which he caught in the Swatara Creek last fall.

Of course in my new environmer I had made some new friends amor the fishing fraternity and one of thes was a fellow named Tom. When h heard me tell about my Fourth July foray he asked if I could inclu him on my next trip. That was fi with me as I wanted to go again b didn't want to go alone. We had bea tiful weather last fall so I plann another excursion in October. B this time, three weeks before the pr posed date, I sent an advance noti to the gang by mailing a card a dressed to Doc as president of t Scientific Anglers & Ash Pile Sleepe Assn., needling him a little with t following message:

> "Plans are in the making for a demonstration of the art of Bass Extraction on the Allegheny River by the Penn-Ohio Piscatorial Society. The demonstration will be in charge of the usual contingent aided by one new member who is also an exponent of the spinning method. All those interested are requested to present themselves at the lower end of Dunns' Eddy on Oct. 2nd."

The note was signed by me as cha man of the publicity committee. T name Penn-Ohio Piscatorial Soci was just dreamed up to fit the oc sion. I followed that card with other a week before the date selec and needled some more with:

> "Please advise your member ship that plans have been com pleted by the Penn-Ohio Pisca torial Society for the great dem onstration on the Allegheny Rive on Oct. 2nd. This will be a won derful opportunity for novice fish ermen to observe the fine point of Bass Extraction.
>
> *FREE FREE FREE*
>
> "All participants are entitled t six bass nine or more inches lon No red tape, just go down to th river and take them out."

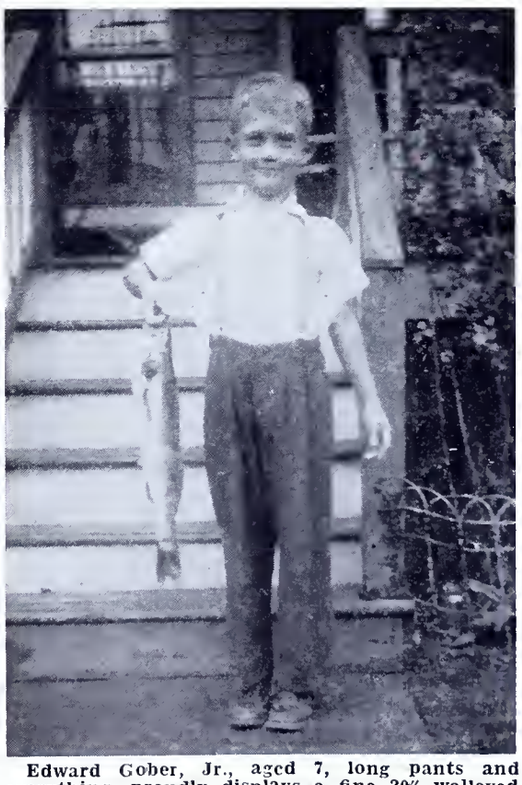
With Tom at the wheel we left h on Saturday evening and after hours driving arrived at the designa spot about midnight. But there

n sign of anyone either angling sci-
ntifically or sleeping on an ash pile.
S we settled ourselves for a nap,
hoping they would be along later. We
aoke at daylight and still no guests,
w ate a sandwich then I took Tom
ot and introduced him to the river.
I pointed out favorite spots here and
there, including "Doc's hole," so called
because here Doc had performed his
greatest extraction. The feat of ex-
tracting a smallmouth bass almost
twenty inches long in the middle of a
moonless night with a fly rod. But on
this day none of that fish's progeny
o even forty-second cousins were in
evidence and there was no action
whatever. About noon we returned
to the car for lunch. After taking
care of that chore we were just rest-
ing when another car pulled in and
Doc and Wayne made their appear-
ance. They had been fishing farther
up the river in the Brokenstraw eddy
and their catch matched ours. Greet-
ings and introductions completed, Doc
cautioned Tom not to take too seri-
ously stories emanating from a certain
source, but I had anticipated that and
nullified the warning with a previous
one of my own. We made a plan of
attack and Doc elected to take Tom
and go down river a couple of miles
and fish back, while Wayne and I
planned to start where we were and
fish down. So off to the wars. When
we reached Doc's hole Wayne fished
at the end of a riffle at the head of
the hole and I was a hundred yards
below him. Both Doc and Wayne had
forsaken the fly rods and were using
casting rods. I had gone through the
same evolution but had partially re-
verted by taking up the spinning out-
fit. Wayne was using one of those old
reliable underwater plugs with a pro-
peller at each end and he drew first
blood by catching a nine-incher. Then
in the next hour Wayne had over a
dozen strikes, some he missed but
most of them were hooked, landed
and released as none of them quite
reached twelve inches. All this time
I was just below him frantically cast-
ing away without the slightest sign
of a strike. Then came a lull for about
an hour with no action for anyone.
The lull was broken when I felt a
strike and struck back and away out
there a beautiful bass came clear of
the water and went into his act. For
a few minutes there was a lively ar-
gument to see who was going to take
possession of about fifty yards of line,
but the argument was definitely
settled when I put a nice sixteen-inch
bass on the stringer. For half an hour
after that the tables were turned, I
had strike after strike and Wayne was
just a fellow who came along. After I
had strung up two more over fourteen
inches long we started to work down
the river. Wayne hooked but lost a
real nice one in some fast water, I
added two more to my stringer. We
met Doc and Tom, they had fished up
the river without a strike.

Doc was telling Tom about what he called a very funny incident that happened in that spot several years ago. At that time I couldn't see any humor in the situation, maybe I was wrong. It happened this way: Doc and I were fishing on opposite sides of the river, the eddy was a small one and a favorite with me as with waders I could fish the entire area. In the middle of the stream were several large flat submerged rocks the bass liked to stay under and I was pretty well out in the river so that I could cast to these rocks. The bottom was very rough and wading had to be done very carefully. I had taken several steps toward the shore and stepped on one of those slippery pyramid shaped rocks and lost my balance and every step I took I hit another slippery rock. Doc happened to be facing down stream and heard the commotion but for some reason thought it came from the shore and he turned and looked that way expecting to see at least a half dozen trees crashing down. All was calm on shore and he turned again and looked toward me, only me wasn't there, all he could see was a hat and the hat kept bobbing up and down. Of course I was under the hat trying my best to keep it above water. Not that it was a very good hat, a little water wouldn't have hurt it but just on general principals I was trying to keep it dry. I finally crawled ashore, and crawled is the right word because my waders were so full of water I couldn't walk. I looked back and there was Doc laughing till tears streamed down over his face. Why, I don't know. I didn't see anything funny.

But to get back to the present, as we were standing there gossiping and ribbing each other and making an idle cast every once in a while Wayne was taken off guard by a strike, but the bass had hooked itself and Wayne dressed up his stringer with a fifteen incher. That was the end of the day for us as it was coming evening and we members of the P.O.P.S. had a long way to go and it was time we headed for home. We said reluctant goodbyes and left the boys on the river.

It had been a very pleasant trip for me, fishing over favorite waters, meeting and fishing with the old gang and enough strikes to keep me keyed up. I was only sorry that Tom had not fared better but he said he had enjoyed the trip and agreed the Allegheny presented some mighty nice fishing water and conceded that the bass must be there. And to top it off the foliage was at its zenith with the fall colors and that sight alone was worth the trip. In fact when I told my wife about the beautiful colors she expressed a desire to see it and on a Sunday two weeks later we went again just to look at the scenery. The colors had faded a little by that time but it was still a grand sight. We stopped at one place to get a good view and I happened to open the trunk and discovered some miscellaneous tackle including license, boots, rods, creel and lures. Just why I had forgotten to take it out I don't know. Or do I?



Edward Gober, Jr., aged 7, long pants and everything, proudly displays a fine 20" walleyed pike his first catch which he battled on Lake Wallenpaupack the past season. "Eddie" hails from Shenandoah, Pa.

Comply or Else!

The crack down of the Sanitary Water Board in promoting Governor Duff's Clean Streams program against the mining of coal without permits has reached four more operators with the issuance of orders that they cease discharge of any mine drainage to the streams until they shall have received permits for their operations. The order points out that it is in violation of the law to open or re-open a mine without a permit and "continuation of operations will render the operator liable to the penalties provided by law."

Those receiving the recent orders are Sylvester Matuzwiski, Slippery Rock, strip mine in Wayne Township, Lawrence Co.; Sunbeam Coal Corp., North Washington, strip mine in Concord Township, Butler Co.; Crawford County Coal Co., Sheakleyville, strip mine in East Fallow Township, Crawford Co.; K & Z Coal Co., Vandergrift, deep mine in Parks Township, Armstrong Co.

PLUG MEMORIES

By G. LINCK HOLLER

My it's cold outside. Guess I'll load up the pipe, and glance through the tackle box. Would you look what's on top, that pretty little green one. Memory tries to reach back for the source, but six years or so is a long time in the life of an active plug. It is a sinking River Runt, green shore finish. I could have bought it new or I may have procured it from our gang's winter plug exchange. Anyway for a couple of years it gradually earned a reputation as a fishgetter. In the Allegheny River, where most of my bass fishing is done, the Runt caught fish. Not lots as some fellows would count them, but more and more often when the going was toughest, it would come through and save the trip. Just "that good little green one."

Then came that never to be forgotten opening day, July 1st, 1946. Five of us had planned for weeks on this trip. It was to be a glorious float down the river from Franklin to Kennerdell. Two big flat bottom boats were ready and waiting. The day finally dawned, and it was beautiful sunny weather but Oh! what water. The Ole Allegheny was high and muddy. One of the most unlikely fish getting days I have ever seen. Our spirits would not be dampened, and we shoved off, determined to take a few fish regardless of adverse conditions. Twenty-five cents on the first fish, twenty-five cents on the longest, and the winner could brag for a year. We know this ride would be a fast one with no scraping on the riffles, so immediately we set to work.

The first boat contained Fay McCann, and his son-in-law, Bob Sheese. With me were a couple of characters named Dick Thompson and Bob Sipes. Now no doubt these two fellows are as good a friends as I have, but before this trip was over I wished I had brought my little boat along and rode alone.

When we load three in a boat, the oarsman doesn't fish. I immediately volunteered for rowing duty, thinking of those good spots that would be reached later when it would be my turn to cast. At first there was much chatter and kidding, with an occasional grab of a retrieving line when the retriever wasn't looking. As the miles slipped along beneath us that first outburst of energy wore off, and we settled down to hard work with the casting stick. Finally miles below at Ajax, the occupants of the other boat, growing tired of casting, started to troll. Sheese caught two bass on a red and white colored Jinx. One of them was a nice heavy fifteen inch fish. Now this Jinx was a new plug to us. We had seen the advertisement, had looked it over, but the rest of us weren't suckers. Oh, No! Our boat held a council-of-war. I can still hear myself, the senior member, telling Dick and Bob, "No matter how high and muddy it is, there are always a few fish feeding along the edge. We'll just coast along shore, looking for skipping minnows or swirls of a hungry bass."

I had maneuvered myself into the number one spot by this time, and was sitting in the bow as we drifted down the east shore. "Now was the time for all good men to come to the aid of their party." So onto the 5-1/2 foot tubular steel rod, Nobby reel, 12 pound test silk line, 5 foot of 8 pound test nylon leader, went the trouble shooter, "the little green one." More eddies and much water later, our boat was still fishless. The two fishing authorities in the other boat were making our lives miserable with their ill-chosen remarks. They each had taken a fish since last we checked on them. Only eleven-inch ones but still eleven inches longer than ours. The pool for the first fish caught was lost, but the one for the longest could still be won.

Then, in the long flat above the mouth of Big Sandy, it happened. There are certain things, I believe, that should never occur to anyone. It is only when I am very low that I wonder if I, perhaps, was a very deserving person. Anyway, the big swirl over against shore in one of those little bays, "the little green one" pulled through. Nothing. I believe now the runt had more sense than I. Anoth big swirl and back again went the ca This time the plug tore into a fis Boy, Oh, Boy! What a fish! Hea and I mean heavy! At last the pc winner seemed a certainty. The e citement and confusion grew terrif I finally levered his back out of t water, an 8-pound carp hooked in th big fin on top of his back. The ne twenty minutes or so was taken by reeling the boat over to the fis then the fish would run a little wa and set down, then reeling the bo over again, etc., etc., etc. After awhi we worked him close to shore. handed the rod to Bob, got out of t boat and threw Mr. Carp up on t beach. What to do? I had two of t whoopinest, yellingest witnesses a pe son could imagine. The only thir I could see to do, was brazen it o and attempt to collect for the longe fish. My argument was that no me tion was made of the kind of fish pe missible. Who won? Why Sheese w both pots with his darn Jinx. T next time we met we each had or but as far as I'm concerned it's still Jinx. Oh yes, I almost forgot, ever body caught at least one little ba but me.

"The little green one" started sulk. For almost two years it to nary a fish. The action was still go and, as well as I could determine, had come out of the carp battle u marked. I fished it harder than ev trying to show my confidence in But no fish. Those I caught we taken on plugs of lesser reputatio

Now it's the bass season of 19 Mark Vosler invited me to take a ri in his red canoe down the buckin riffles to Emlenton. We left Kenne dell early one fine summer day. L of cloudy water, almost like that oth trip. The fish were few, small and f between. Much time was spent taki pictures and colored slides. Thri came mostly from riding the whi water, particularly the shoot in Dotter's Eddy. The big thrill that didn't share with Mark happened the St. George Eddy. "The litt green one" was snapped on for t long troll down to the mouth of Litt Scrubgrass. Off the point, just abo the road, I connected with a 10-in bass, but the biggest 10-inch one ever caught. Why? Because "the l tle green one" was on his way bac The little catch in my throat when snap him on is gone. I'm positive h about ready for that big scrap whi is generally the finish of all go plugs.

Mrs. Jeanne Yakopin of R. D. 2, Library, Pa., and the fine l.m. black bass she caught last October 30. Jeanne took the bass from No. 2 Canonsburg Dam on her first attempt at plugging. The fish measured 21½" long and weighed 5 lbs. 1 oz. and is regarded as one of the largest caught in that area during the 1949 season.

Here is another one. One that lives the reputation of it's predecessor. ter many years of experimenting h unproductive spinners and pork d lures, I finally purchased a small ounce, black and white Oriental ggler. The action seemed very good l the wide body didn't sink as ckly as smaller body spinners. I agined the shape of the body gave slight planing action which helped keep it at the same depth throughthe retrieve. Not having any conence in pork rind for Allegheny er fishing, I racked my mind for hething to hang on this bare hook. en a happy thought struck me. The and brown feathers were lifted m Mr. Bass Fly's "Favorite." Harry nkert seemed not to mind as long I didn't use a worm with his thers. I was sure now I had someng and later events proved it. With s spinner I started taking fish out of se fast, two foot deep riffles. On trip it took a bass on two sucsive casts to the same spot. Not bass but the only ones caught by of us in three hours casting.

Then one sunny morning, just as fog raised, I hit the big one with s spinner. It was right at the foot the riffles below the Kennerdell dge, where the Ole River pours into pool. For a few seconds I had to ggle to keep my feet under me that swift current. Just as sudden was gone. Something happened at leader-line knot. This little red white spinner with the brown red feathers somehow seems a r substitute. "There are no more k and white ones," True Temper te me. Oh well, maybe I can find e big color blind bass someday. o run into a small one once in ile, but so many of them do not e solid and I miss them with this ner.

plug box, sure I know what's in See, a little old retired battlered warrior. It seems such a long e ago that I bought this small perch red plug with spinners fore and Not a Shakespeare midget spinner similar, a trifle larger and more shaped. I don't remember the ke, and I never see them on the ket anymore. The best plug I r owned for fast shallow water. s or wall-eye made no difference perchy, it took them all on. Many rip was saved by this plug and n the fish were hitting, no other was needed. This was the one introduced me to the value of ll plugs on the fast stretches of River.

ll never forget that fishing trip to Allegheny, near the mouth of Big dy. We dropped down the steep about 2 A.M. the morning of July 4, 1945. With me were Oscar Barnett and Norm Webster. Now Oscar believed in the effectiveness of floating River Runts for daytime fishing, and was perfectly willing to back them with marbles or chalk. While Norm, altho' a rabid fisherman, was looking forward to this trip more as a tonic after three long hot years at Randolf Field. Cold, very cold for July and guys with thin blood almost froze. Gee, was I cold! Good crystal clear water and did we hop to it. Only Oscar brought in one fish that night with the top water plugs. Hot coffee and sandwiches while the sun chased the fog, then back to the fishing and great to be alive.

I hurried to the mouth of Big Sandy, waded out to boot top and started working down stream. My outfit was the 5½-foot tubular rod but at daybreak I had changed reels. An old Shakespeare tournament reel without level wind had replaced the Nobby. On it I had spooled a 9-pound test silk line and 5-foot of 6-pound test nylon leader. The plug? You guessed it, the perch spinner. I had slowly travelled about 50 yards when this action occurred. A quarter cast out and up stream was retrieved to within 20 feet, when suddenly the line tightened. Thinking I was snagged but taking no chances I struck deliberate and hard. A fish started to move slowly and powerfully around me in nearly a half circle. Stretching on tiptoes I watched him hug the bottom. "Boy! a real wall-eye, at least two feet long," I thought. All of a sudden, close below me the water exploded! I'm positive that Muskie leaped three foot hight and

John "Whitey" Robertson of Ellwood City and the 51", 28 lb. 5 oz. muskellunge which he caught in Lake Lebeouf on October 6, 1949.

throwed, at the very least, a gallon of water over me. Why I didn't fall over backward I'll never know 'cause I never was more shocked in my life. But the old reflexes started working and before I started thinking again, I had let out line. Maybe it was just an act of self-preservation. Half a dozen spectacular jumps later the fireworks subsided. I easily led him to shore, skidding him out of the water and up on the rocky beach. Here I dropped on my fish and smacked him with a stone. Luck was with me for the little plug was caught just inside of his mouth and the leader never touched those teeth. There he laid, all 25 inches of him, and must have weighed close to 3 pounds. My first and, so far, only Muskie. But the plug, Oh My! You couldn't believe what those teeth did to that cocky little perch spinner.

I snapped him on numerous times later but it was of no use, the old fire wasn't there. So I laid him away in the bottom of my tackle box. Perhaps someday I'll redress him with paint and hooks, then put him back to catching fish as all good plugs should do.

The trip was a great success. Besides enjoying a beautiful day, all caught fish. A brother of the little perch plug, only in pike finish, accounted for two nice bass for Norm, and Oscar picked up two more with his favorite Runts.

Here is another box, a much larger one. In it is a big, gaudy colored plug made by a very well known wooden minnow company. A top water number that has a hole down through its body, and a metal scoop attached at the bottom of this hole. A real twister and commotion maker but like many of us when the big test came, it just fell short of success. I bought it years ago and really lathered the water with it. No luck, not even a little bump. Finally losing all faith in the plug, I looked for a better home for it. Perhaps I didn't handle it the right way. Dad said, "Let me give it a trial."

Now Dad was a three-hundred pounder most of his life, and his only real hobby was hunting. Of course he went fishing but I believe it was just an excuse to get into the woods and along the streams. It always seemed to me that more time was spent visiting and cooking for the group, than trying to catch a fish.

There was one trip 'tho, with the gang, up above Thompson's Eddy. Up where the islands force the river into narrow fast channels. It seems that after dark, Dad worked his way along the bank of one of these channels. Then a strong wind up, a long cast

(*Turn to page* 22)

FISHING STRANGE WATERS

By DICK FORTNE

There is an undeniable fascination in fishing strange waters. Even a favorite trout or bass stream, to which the angler returns time and time again in full confidence that he will be able to take fish, can become monotonous. The very fact that the angler is familiar with every riffle and pool and every turn in the stream—that he may even feel he knows some of its larger inhabitants intimately—can take the edge off a day spent angling its waters.

But strange waters present a real, and often a difficult, challenge to the fisherman. He may know what species of fish he is likely to catch. It is not too difficult to find out what particular lures or baits usually prove effective.

That knowledge, however, is not enough in itself.

There are mysteries in strange waters which the angler must solve for himself, and that is what makes the sport so interesting.

A friend and I one day fished for bass in a slow-moving creek in South-Central Pennsylvania. All the information we had—from my friend's brother-in-law—was that the stream contained some nice bass and that hellgrammites were favored by local anglers, although the creek was reputed to contain some really lunker small-mouths and some fishermen in the vicinity had caught them with midget plugs.

We approached the stream prepared for both bait and small plug fishing. And we soon laid the casting rods aside. The weather was hot, and the water low and crystal clear, and many a fine stretch of the stream was literally choked with aquatic vegetation. Even weedless lures were quickly encumbered by masses of moss and slime.

Nor did we find the numerous mill dams on the stream fruitful. We had no boat and, consequently, were unable to cover much of the water in the large ponds which these dams had created.

The visitor to strange waters guessed right—and hooked a good trout feeding on the edge of the current beside the rock ledge in the background.

Although we would have preferred to cast plugs for the big fellows, we finally turned to our hellgrammites and began a careful advance along the stream in quest of the bronze-backs.

Here again we encountered a tough problem. There were no really good bass hiding places in the creek. Most of the pools were flat and comparatively shallow. The bottom was more mud than rocks, and there were no large boulders or other obstructions that might have provided a refuge for the fish.

In one pool my eye was attracted to a spot where a large tree overhung the water, casting a deep shade over a small pocket of water that from a distance appeared not more than a couple of feet deep.

There was evidence, however, of a bit of current in this area of the stream, and a bait was cast so that the current would carry it through the shadowed water.

A husky bass took the bait the first time it got into the shadows. Another and another and another followed. Nine bass in all were taken from that little pocket before the strikes stopped.

My friend, who had been upstream ahead of me, came back down when he observed that I was spending more than the usual time in one location. I explained what had occurred.

The result was that during the rest of the afternoon we spent on that stream we had a whale of a good time with the bass we found in other pockets of fairly shallow water where overhanging trees protected the water and the fish from the glare of the hot summer sun.

We discussed our experience later with another angler who had spent considerable time on that particular creek. He told us that we had hit upon the secret of the stream—that during hot summer weather the bass schooled up in the type of water in which we had found them.

A few principles can guide the angler who explores strange waters. They will help him catch fish.

In the first place, the feeding habits and other characteristics of fish are pretty much the same in all streams. They insist, for example, on living where they have shelter from their natural enemies and where there is a reasonable amount of natural food.

That means they are most likely to be found in the vicinity of boulders, stumps, cut-under banks, and in deep pockets where animals, birds, and men cannot easily get at them.

That means, also, they will freque portions of a stream where there a minnows and other aquatic life, whe riffles carry food to them, and whe there is streamside vegetation fr which insects can fall.

A stretch of water that is flat, sh low, and has a bare gravel bottom w not attract and hold fish in any strea for example.

Secondly, all fish have the same i stincts of self-preservation—instin which require the angler to approa the water with caution, to handle l tackle with care and delicacy, and make every possible effort to av undue disturbance of the water he fishing.

That point certainly needs no amp fication.

In the third place, each species fish has a liking for certain kinds food and, therefore, will be attract also by certain types of artificial lur

The small-mouth bass likes minno hellgrammites, and streamer flies. T large-mouth bass goes in for fro minnows, and surface plugs. Trout all species will take natural insects a minnows, and also the wet and d flies, the nymphs, and the stream and bucktails that imitate them.

Pickerel have a hankering for liv minnows and an almost equal thusiasm for spinners and spo which look like minnows in action.

The angler who fishes strange wat has need, also, for a keen sense observation. He must survey each of water before he fishes it, looki for those tell-tale signs so evident all good fishermen of the presence fish.

Currents must be carefully studi Water depth must be considered as important factor. Stream temperatur which have a major influence on t feeding of fish, must be taken i consideration.

Of course, even the most care angler will make mistakes in fishi strange waters. That is inevitable. E if he puts into practice all the kno edge and skill he possesses he will successful.

And what will be his rewards?

No angler worthy of the name fa to thrill to the opportunity to expl new and untried water. He will f his pulse quicken as he approache bit of untested water and begins ploring it with his lures. He will fe his eyes on new beauty, for Mot Nature has adorned each stream w its own particular attractions.

He will capture the spirit of pione

his river pool has a good current, fair depth, evidence of a rocky bottom, so the visiting er cannot go amiss if he casts his plug ully here.

and exploring which has fallen so in this civilization.

nd if he is a true sportsman, he get tremendous satisfaction out of knowledge that by fishing strange ers he is putting himself under a handicap and putting the advant- on the side of the fish he hopes atch.

hat is perhaps the most important rmise, in the long run, is this: Fish- strange waters will sharpen an ler's skill, add to his fishing knowl- de and self-confidence, and increase pleasure he derives from angling waters he knows almost as well as does the stone walk and the shrub- y in his own back yard.

or a new experience in angling, try sing strange waters some time dur- 1950!

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oes from the Past

arren L. Good formerly of Loyalton, nsylvania and now of Elizabeth, New ey has sent us the following excerpt h we pass along for its rather reminis- value.

"he Angler's Souvenir" by P. Fisher, Esq. illustrations by Beckwith and Topham, published by Charles Tilt, 86 Fleet Street, don, England, August 1, 1835.

A gentleman of the name of Vigne, a ber of Lincoln's Inn, took a trip to rica, about three years ago, during the vacation, and enjoyed a few days' fly- ng in Pennsylvania. He had some fair t in the Juniata, one of the tributaries he Susquehanna. The trout were from a pound to three pounds in weight; and ittle more than two hours' fishing he ht about six dozen. He mentions the hackle as the best fly that an angler thrown in Spring Creek."

lot of water has certainly gone under bridge these 115 years.—Editor.

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umber: "I've come to fix that old tub in kitchen."

nior: "Ma, here's the doctor to see cook."

What's New in Fishing Books

Reviewed by Hugh Johnson

Joe Bates believes that a knowledge of what constitutes trout water, of the specific locations in such water where trout habitually "hang out," and of the conditions which produce variations in trout behavior, is the most useful knowledge that a fisherman can have. His new book, *Trout Waters and How to Fish Them* (Little, Brown and Company, Boston, Mass., $6.00) is founded on that conviction, and is, therefore, a detailed study of trout habits in relation to various types of trout environment—and is one of the most completely honest trout books I have come across in a long time. It is always a pleasure to have one's own ideas expressed by an accepted authority, and Joe Bates strikes a responsive chord in my own uncomplicated angler soul, because he tosses out as relatively useless all the fishing theories based on the pull-of-the-moon, solunar tables, wind direction, barometric pressure, etc. Far ahead of all these, Mr. Bates establishes *water temperature* as the most important single factor, the only factor with which most trout fishermen need be concerned, governing fish feeding and fish activity.

Trout Waters and How to Fish Them is divided into four main parts, Getting Acquainted with Trout, Characteristics of Trout Water, Fishing Famous Trout Waters, and Development of Trout Waters, and through it all runs the main thesis—*water temperature.* Sensibly sterring clear of descriptions of casting, fly-tying, tackle specifications, and other items so voluminously and repetitiously covered by other writers, Joe Bates here marks out a relatively undeveloped field—and, in the words of Paul R. Needham, Fishing Biologist of the U. S. Fish and Wildlife Service, "presents a new approach to anglers' problems—a highly interesting and useful book." There are many fine photographic illustrations, more than 30 drawings, and a full-color frontispiece. If this book achieves the popularity that it so richly deserves, the sale of fishermen's thermometers will go skyward! Just one small criticism that is probably close to carping—an index should have been included.

Game Fish of the World edited by Francesca La Monte—Associate Curator of Fishes of the American Museum of Natural History, and Brian Vesey-Fitzgerald of London (Harper and Brothers, New York, N. Y., $15.00) is for the collector of fine sporting books. Of handsome proportions, and beautifully put together, the book contains 31 articles by internationally famous angler-authors about leading game fish, fresh and salt water, in all parts of the world—from the familiar brown trout of North America to the fabulous giant of India's rivers, the mahseer who runs out 150 to 200 yards of line on the first rush. The outstanding feature of this feature-laden volume is the more than 80 pages of full-color drawings of game fish by Dr. A. Fraser-Brunner (that of the muskellunge coming head-on, with mouth wide open, for his prey, should not be shown to children before bed time!). While the color register on some of the plates is not what it could be, I do not hesitate to say that this is a full fifteen dollars' worth of book for the man who can afford, now and then, to go "all out" for a particularly choice addition to his library.

"Do you know what good clean fun is?"
"No, what good is it?"

LET'S GO OUTDOORS WITH SLIM

By Ralph Sides

The outdoor outlook for 1950 is like unmarred freshly fallen snow.

Somehow, I'm reluctant to break a path along the relegated route of previous years. I've decided to overthrow the threat of blackmail hovering over me, in the form of a dangling earthworm to keep my tongue still.

Jack Wise, trout angling authority who has held me back from telling of an ignominous episode which happened to him sometime ago, simply because he would reveal I preferred to use "garden hackle" to "feathered hackle."

I quaked under the thought of facing the outer world with the fact that worms outweighed artificial flies. The "old master" of fly tying had me under his thumb, but now I've decided to make a clean breast of my sentiments and admit my shortcomings. This gives me free rein to tell what happened a few seasons ago.

Jack was fishing down on the lower end of the Conowingo Creek. He was carrying his rod and walking along a path when he heard a sound behind him.

Turning he saw a bull plodding behind, so he hurried his steps which were matched by the animal.

Looking over his shoulder, he decided to get away from the bovine creature by crossing the creek.

Splashing through the shallows, he was startled to find the bull was right behind him.

He started running, looking for a tree and the only one in sight were a couple of big oaks which had limbs way beyond reach.

He ran faster and faster as the heavy snorting of the now-enraged beast touched his flying heels.

He vaulted a fence on the highway, all out of breath, and the bull stopped.

It was a rotted rail fence with a rusty barbed wire between him and the menacing hulk, which could have huffed and puffed it apart.

Jack was ready to jump back in the meadow in case the bull decided to cross the line, but it stayed put, and he lapsed into exhaustion.

Running had worn blisters on his heels and he was in a sorry state when he staggered to the car.

He never wanted anyone to know about this experience.

However, I feel I can breathe freer after getting the truth off my chest and be able to put a worm on a hook in broad daylight without any qualms.

THE HYDRO FISHING CLUB ANNOUNCES CONTEST WINNERS

The Pennsylvania Water & Power Company and the Safe Harbor Water Power Corporation, announced the winners of the regular Hydro Fishing Club contest which opened March 1 and closed midnight, November 30th.

Ralph McGuigan, Clayton Shenk, Robert Fasnacht and Elmer Burkins, representatives of York County Federation of Sportsmen's Clubs and the Federated Sportsmen of Lancaster County, acted as judges in the contest and made the awards listed below.

The top prize in the Bass division was awarded to William R. Todd, Lancaster, whose fish weighed 3.5 lbs. Mr. Todd's fish was caught at Safe Harbor on September 12th. Second place went to Howard E. McMullen of Conestoga R. D. No. 2, whose fish weighed 3.4 lbs. Third prize was won by Mr. McMullen also, with a fish weighing 3.0 lbs.

John M. Schaum of Lancaster captured first prize in the Susquehanna Salmon division with a fish weighing 5.5 lbs. He caught his fish at Safe Harbor on October 28th. Second prize was awarded to E. Earl Sheets of Holtwood with a catch of 5.4 lbs., and third prize to George F. Peters of Columbia with an entry weighing 5.2 lbs. Three ties by weight were entered for third prize in this class. The ties were decided in accordance with the contest rules which specify that the greatest length of the tied entries determines the winner. Mr. Peters' 5.2 lbs. entry measured 25 inches in length. Second place winner, Mr. Sheets, also won second prize in the salmon division of the Special Hydro Fishing Club contest which ran from September 15th to October 15th, with a 4.4 lb. salmon.

The most highly contested class with 35 entries was the Catfish division. Franklin Kissinger of Columbia took first prize with an entry that tipped the scales at 8.3 lbs.

Mr. Kissinger caught his fish at Safe Harbor on October 8th. This same fish won a first prize in the Special Contest. Howard Bard, Sr. of Columbia received 2nd prize with a fish weighing 6.9 lbs. Third prize was awarded to Lloyd E. Jacoby of York with an entry of 6.5 lbs.

Carp comprised the fourth division. Winners in this division were—Paul H. Endy of Pottstown, whose fish weighed 20.5 lbs. He caught his prize fish at Safe Harbor on July 27th. Second prize was captured by Clarence Rudegeair of West Chester for his 20.1 lb. catch. Third prize was awarded to Robert L. Martin of Columbia, whose fish weighed 19.5 lbs.

A total of $200 in prize money was awarded to these Hydro Fishing Club members. In each class, $30 was given for first prize, $15 for second prize and $5 for third prize. The companies will mail checks to the winners this week.

The carp and catfish divisions of the contest opened on March 1st while the bass and salmon game fish divisions opened on July 1st in accordance with Pennsylvania fishing regulations. The contest closed November 30th for all divisions.

The Hydro Fishing Club was organized in September 1948 and now has a membership of over 3700. Fishing contests are an annual affair and for the convenience of members, weighing and registration stations are operated by Lyle Simmons, Columbia; Byron Resh, Wrightsville; S. M. Fife, Airville, and Norman Welsh of Long Level in addition to the stations at the two hydro plants. The establishment of these stations was made necessary by the contest rules which provide that fish caught in the river between the Wrightsville-Columbia bridge and the Holtwood tailrace are eligible for prizes. Contest entries were made at all weighing stations but Safe Harbor retained its reputation as an outstanding fishing area by producing the four first prize winners.

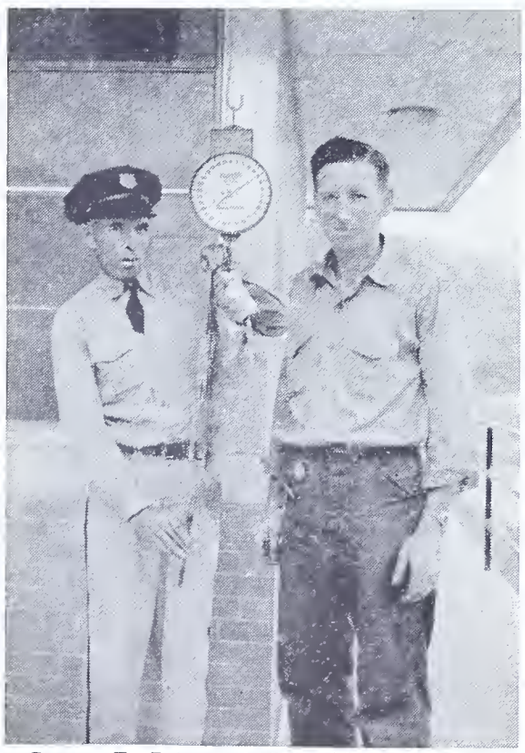
Hydro Fishing Club Contest Winners

CARP—1st Paul H. Endy, 526½ Walnut St., Pottstown, Pa.; 2nd Clarence Rudegeair, 406 W. Chestnut St., West Chester, Pa.; 3rd Robert L. Martin, R. D. No. 2, Columbia, Pa.

CATFISH—1st Franklin Kissinger, 214 Locust St., Columbia, Pa.; 2nd Howard Bard, Sr., 643 S. 9th St., Columbia, Pa.; 3rd Lloyd E. Jacoby, 1951 Susquehanna Trail, North, York, Pa.

BASS—1st William R. Todd, 338 S. Ann St., Lancaster, Pa.; 2nd Howard E. McMullen. R. D. 2, Conestoga, Pa.; 3rd Howard E. McMullen, R. D. No. 2, Conestoga, Pa.

SALMON—1st John M. Schaum, 525 W. Chestnut St., Lancaster, Pa.; 2nd E. Earl Sheets, Holtwood, Pa.; 3rd George F. Peters, 1019 Barber St., Columbia, Pa.



George F. Peters of Columbia, Pa. and his wall-eyed pike (commonly called salmon) measuring 25" long and weighing 5 lbs., 2 ozs.

"What was your last job?"

"Diamond cutter."

"Oh, in the jewelry business?"

"No, I trimmed the lawn at the ball park."

J. M. Schaum of Lancaster and his entry, 24½" long wall-eyed pike (commonly cal salmon) which weighed 5 lbs. 5 ozs.

TACKLE BUSTERS OF HIDDEN LAK

(*From page* 10)

of heading for the open waters I sa him head straight for his tangled lo I put the pressure to him as much I dared. Down he went among t logs, then came that sickening slack the line that means a lost fish, and leader devoid of a lure. The Tack Buster had won the first round.

Many times after that discouragi encounter I sighted the big trout. N amount of coaxing or teasing cou make him strike again. He had h enough for one year.

My second chance at the Tack Buster came the following year, a this time I planned well ahead. T plans consisted mostly of cutting son of the brush along the bank of t lake. This gave me a little more roo for casting.

Leaders were checked, flies pour over, and finally I was ready to tal the old man.

The walk to the lake seemed take ages, but finally I arrived and breathtaking sight it was. An ear morning haze was dissolving in t sunlight, and two startled wood duc silently took wing. Here and there the surface of the lake were dimples rising trout.

I made a careful approach to t edge, keeping well screened behind t brushy bank. My fingers trembled

ssembled my gear. At last I was dy. A few casts with the heavy der showed me that the old trout still as cagey as ever. It was ng to have to be a light leader inst bull strength again.

he water was rested, then I put fly out again. This time on a 2x der. I used a rather slow retrieve he leader could not take too much ck. The Buster looked the stream- over with interest, started toward then passed it. Coming in toward re he was a perfect picture of a interested trout. Figuring the show r for that cast, I started to retrieve ittle faster. Suddenly the Buster ned, headed straight for the stream- and gave it a slashing attack before ould slow my retrieve. There I d as the year before. Rod in hand, leader absolutely devoid of a lure. Yes, gentlemen I swore, mildly mind you, but I swore. Round two now belonged to the Buster.

I fished over the old gentleman many times that season, but to no avail. Every lure was treated with distain. He turned his back to all my flies, and to me.

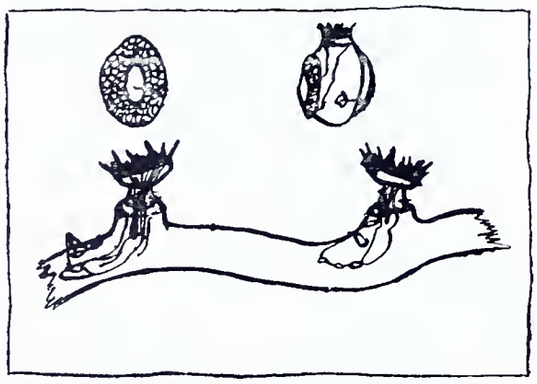
There is one bright spot though even amid all these tragic circumstances. The Tackle Buster is still there, and a new season is coming on. Round three may be mine. I'll be there to give him another whirl at that pet streamer fly of mine. Maybe he won't take it again this year you say. Then gentlemen, I'll let you in on a secret. I am going to try live minnow, then the Tackle Buster will be mine. Maybe.

THE MOSS ANIMALS

By CARSTEN AHRENS

omparatively little has been writ- about the "Moss Animals." Nature ters pass them by, perhaps, because y are economically unimportant, or ause they are usually colorless, or n because there has been consider- e disagreement as to just where y fit into the animal kingdom. But mals they are even though the onies of them look often like small, ny-branched plants.

remember well becoming ac- inted with them many years ago. brother and I found them one day en we were wading in a cattail mp near home. We had discovered eral glassy colonies, each about as ge as a medium-sized apple, and had ced them in our large bait can d with water. We started to find Wiggins, an old gentleman who aped each summer on a sand bar



THE MOSS ANIMALS (above are Winter Buds)

that separated the swamp from the lake. Mr. Wiggins knew a lot about nature, and we went to him with our tough questions.

On the way to the sand bar, we overtook Jed Overdy, a hunter, talker, and trapper of some local reputation. By design or ignorance he skyrocketted our curiosity into the wildest of dreams.

"My lads," he intoned, "you have there generous chunks of the fabulous ambergris . . . a rare substance used at the base of the most expensive and the subtlest perfumes in Christendom. Your fortune is made if you can collect an amount of the stuff!"

Jed was very vague about the amount needed or who would buy ambergris, but we had heard enough to know that we would soon be as rich as Rockefeller.

Nevertheless, we hunted up Mr. Wiggins, who tumbled our air castles into the swamp. Ambergris, he said, was an off cast of sick sperm-whales, and whales, sick or otherwise, didn't haunt the freshwaters of cattail swamps.

Although Mr. Wiggins told us what we didn't have, he couldn't identify the transparent masses. He thought that they were probably clusters of fish or amphibian eggs. It wasn't until I reached college that I learned that what I had found some years before were colonies of tiny animals.

The moss animals are usually placed in a phylum by themselves. This phylum is called Bryozoa by some authors; Polyzoa, by others. Usually they are found in sessile colonies attached to submerged stones, debris, or the stems and leaves of water vegetation. The individuals are tiny, almost microscopic. Each animal is mostly alimentary canal, which is so U-shaped that the mouth and anus are close to each other. The esophagus is long, and the stomach seems surprisingly oversized. The mouth is surrounded by hair-like processes which beat and set up an eddy which draws food (chiefly diatoms) into the opening.

The moss animals are found in most of the waters of the world. Usually they seem to live near the surface where diatoms are plentiful. Some species are found only in swift streams and others in motionless or slow-moving bodies of water. There are many salt-water species. A fresh water species (Plumatella), which is common in our state, has been found in all parts of the world with the exception of Africa. The species of this genus appear as intertwining masses of transparent to semi-transparent branches.

The colonies found in the cattail swamp belonged to another genus (Pectinatella). With this group a large gelatinous base is always present.

Reproduction, as with most sessile animals, is both asexual and sexual. Budding is common as in cell division.

The colony degenerates and dies each fall with the coming of winter, but the group provides for the next year's existence by forming "winter buds" or statoblasts. These are small, oval, and flat. They resemble seeds in appearance. Some are decorated with hooks and look like tiny burs. They preserve the race not only by maintaining life throughout the winter but also by lying dormant through summer droughts. In this stage they have been carried all over the world either by the winds or on the feet of wading birds.

The statoblasts are distinctively shaped and are frequently used in identifying species.

The moss animals are for the most part harmless to man. Only rarely do the colonies become troublesome in water systems.

"Who gave the bride away?"
"I could have, but I kept my Mouth shut."

PENNSYLVANIA FISH LAW VIOLATIONS

Cases Settled during the Month of December 1949

ALLEGHENY COUNTY

Hutnik, Pricilla, 1720 Highland Ave., Duquesne, Pa. Fishing without a license $25.00

Rell, A. J., 46 N. Canal St., Natrona, Pa. Exceeding creel limit 10.00

BUCKS COUNTY

Clymer, L., Quakertown, Pa. Fishing without a license 25.00

CAMBRIA COUNTY

Criste, Bernard, 716 3rd St., Cresson, Pa. Fishing without license 25.00

CLARION COUNTY

Dinger, Glenn F., R. D. 1, Mayport, Pa. Aiding and assisting in dynamiting Red Bank Creek 100.00

Hetrick, James W., R. D. 1, Mayport, Pa. Aiding and assisting in dynamiting Red Bank Creek 100.00

DAUPHIN COUNTY

Fritz, Robert, Harrisburg, Pa. Operating motor boat without a license 10.00

Sheaffer, Wm. M., 424 Harris St., Harrisburg, Pa. Fishing without a license 25.00

ERIE COUNTY

Smiley Fish Company, West Public Dock, Erie, Pa. Possessing unlicensed device 50.00

LANCASTER COUNTY

Laudenberger, Lewis, R. D. No. 1, Washington Boro, Pa. Fishing without a license 25.00

Sowers, Mervin B., Willow Street, Lancaster, Pa. Exceeding creel limit 30.00

LUZERNE COUNTY

Del Bianco, Lewis, 315 Main St., Plains, Pa. Exceeding creel limit .. 10.00

Marino, Victor J., 682 Shormaker Ave., W. Wyoming, Pa. Exceeding creel limit 10.00

Szumowski, Joseph, 6 Lehigh St., Wilkes-Barre, Pa. Two undersized black bass 20.00

Wallace, Peter, 6 Lehigh St., Wilkes-Barre, Pa. Two undersized black bass 20.00

LYCOMING COUNTY

Smith, George A., 310 Glover St., Jersey Shore, Pa. One undersized black bass 10.00

MERCER COUNTY

Frayman, Lawrence, 434 Tanner St., Sharon, Pa. Illegal operation of motor boat 10.00

Kvocak, John, 656 South Oakland, Sharon, Pa. Fishing in Nursery Waters 20.00

NORTHUMBERLAND COUNTY

Motter, W. A., 205 N. 4th St., Sunbury, Pa. Using illegal device 20.00

PHILADELPHIA COUNTY

Sandroni, Alfred, 1545 S. Stanley St., Philadelphia, Pa. Altering a fishing license 25.00

VENANGO COUNTY

Kohler, Richard M., Homersville, Pa. Operating motor boat without license plates 10.00

OUT OF STATE

Weiss, Edward P., 9603 McCracken Blvd., Cleveland, Ohio. Fishing without a license 25.00

KILLERS OF INLAND LAKES

(*From page* 13)

at any time of day. The cause of it is a mystery, especially since the fish do not run in schools.

And if we did understand this, and other vagaries of the pike, that vital element of all fishing would be lost. I like to call this vital element "the unexpected."

Last summer we were fishing for great northern pike on Lac Les Rapides, Quebec, Canada. At least, I was fishing for great northern pike; though Joe Grimes, my companion, insisted that we fished for pickerel.

We located the pike in shallow water and figured they were still on the spawning beds (it was late May and the latitude is about 48°). After a good catch our guide was taking us back to home camp. The outboard motor sputtered and died in the middle of the lake, and while the guide and I fussed with the motor Joe Grimes did some fishing.

We had tried deep water before, without success; and this was at about forty feet depth. So we knew that Joe wouldn't get a strike. At least until after he'd set his hook into a fish!

Pumping into the gloom, the pike looked to be the biggest fish of the trip. And he knew the tricks. He kept Joe guessing by changes of pace—now running, now braking in an instant, turning with bullet-like suddenness, sounding the deeps and shaking himself on the surface.

It was a lot of fun—even to watch. I was sorry to see the belly-roll toward the net. Calmly I slid the mouth of the net under him.

In that instant the pike wakened. The water around the net seemed to boil. Joe reacted quickly.

But not quickly enough. We let out a groan as the line grew limp and the fish vanished under the swirls. The line had torn.

It was a silent ride to camp. At boat dock while unpacking, Joe tur toward me with fire in his eyes. " coming back after that—" He plun into some appropriate names for lost pike.

"He popped up in an unexpec place," I said. "And he won his f dom by doing an unexpected thi

Joe scooped up his tackle and sta for the cabin. "The dirty rat! He ro ever like he was done. Like he k I'd get over-confident! Damn, it's getting hit below the belt!"

As he turned to me there was an churning in his eyes. "I'd sit i blizzard to get hold of that old pick again!"

I said nothing. From the rem depths of the Quebec wilderness, ing weirdly above the breath of w in the pines, came melancholy sou We had heard them before: the and savage timber wolves on the t of meat.

Joe gestured toward our pike, l still now on the beach. "The only ference between them and t wolves is, water hides these de And you can hear the wolves howli

PLUG MEMORIES

(*From page* 17)

almost to the far shore. Wham! terrific strike, a fast run towards too fast to reel in line, a powe jump and world shaking splash must have been heard as far n as Warren and south to Tidioute. is the story I've heard told many ti by the participants. Anyhow, gang rushed to him on the double pull him out of the drink, but suspense was of short duration. E by flashlight the air gradually tur blue and developed a slight acrid t and brimstone odor.

Whether that fish was all a mist or the plug had decided to mend ways and took offense at the langu used on this it's initial effort, I'll ne know. Of this I feel sure, it ne even came close to another fish.

Before I gave Dad's fishing kit my nephew, I sneaked out one p No, I don't believe I'll ever snap it for in a moment of desperation might tackle a fish too large for to handle and I would lose both them.

"What? Yes Dear, I'll be right bed. Yes, I know it's late. Just lo ing through the tackle box. O.K. coming."

A good wife always helps her hus with the housework.

THE MARSH MARIGOLD

By ROBERT LEO SMITH

n marshes and swampy places and ng streambanks you will find from ly spring until June a startling low flower, the marsh marigold. ether along the edge of wet, shrub- areas, in boggy mud or even in llow water, the marsh marigold ays makes a spectacular spring play.

You can hardly mistake the plant. owing in heavy clumps, the marsh rigold may reach the height of 2 t. The stems are smooth, erect, low and a rich, dark green like leaves, which are heart-shaped, g-stemmed, smooth and conspicu- sly veined.

The blooms, which may measure er an inch across, are a rich yellow d shaped like a shallow cup. Un- e most flowers, the marsh marigold s no petals, usually the showy part; d the brilliant yellow but short- ting petal-like structures are the pals, which are leaf-like in more pical flowers. It has numerous sta- ns and up to a dozen or more pis- , nearly an inch in length. These tils in due time split down one side, easing many seeds. The showy ssoms attract bees and the bee- e "flower" or syrphid flies; thus llination is accomplished.

The Marsh marigold is a standard een" in many places but unless it prepared properly it may be a urce of danger. The green plant ntains two poisonous substances, jervine and helleborin. Both these poisons are destroyed by cooking or drying. In cooking the plant, the first water should be drained off and re- placed with fresh water. Cattle after feeding on green tips often suffer from bloat, diarrhoea, and a severe reduction in milk flow.

The buds, too, are delicious when parboiled in salt water, then pickled and canned, much in the same manner as cucumber pickles.

Like many common things, the marsh marigold, a member of the but- tercup family, goes by a variety of names. In many places it is known as American cowslip, and in others, meadowboots, drunkards, soldiers' buttons, capers, boots and crazy bet. But to everyone it is a long-awaited and colorful flower of spring.

SWAMP WATER

(*From page* 11)

The heron returning to his favorite hunting grounds floated in over the evergreens that flanked the cove, and hid the boat and its busy occupant, until he was about to drop his trailing legs. Wheeling to seek other undis- turbed feeding grounds the heron uttered a rancorous squawk of protest.

The boy intent on his fish started involuntarily at the disturbance the rod dipped for an instant and Esox was free.

Down into the cool darkness he sank, nursing the long gash in the upper jaw, just where the scar showed white. Gradually recovering from his experience hunger again made itself felt. Luck in the form of a fat frog flashing white in the cool dusk of the water struggled a moment in the en- tangling weeds. Esox lean paunch rounded again to complete satisfaction as he lay under the green arch of weeds.

Again the gnarled pine, etched darkly against the skies showed the silhouette of the great blue heron.

Question: The bus driver charged a lady full fare for her son who was wearing long pants. At the next corner, a small boy wear- ing short pants paid only half fare. And, at the next stop, a lady mounted the bus and the driver didn't charge her anything. Why?

Answer: She had a transfer.

This Year Try Ice Fishing

(*From page* 7)

Ice fishing can be exciting especially when a party is grouped together.

limit is reached will insure the sport of angling for the many years in the future.

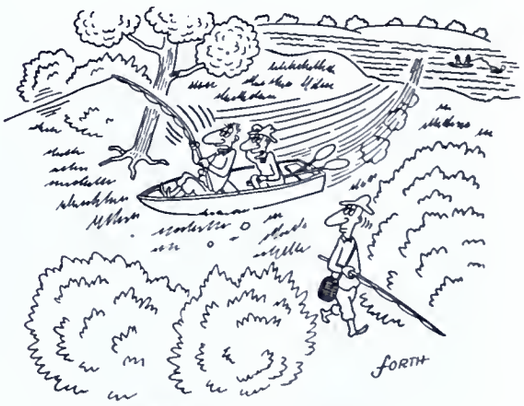
Ice fishing can be exciting especially when a party if grouped together. Each member's tip-ups will prove exciting to each angler when one red flag is raised. The element of surprise is discussed as all gather closely to the hole.

Members of the fair sex can join in on the fun, as well as the entire family.

This year try ice fishing. You may be pleasantly surprised at its thrills and surprised, too, how quickly the wintry months speed by and the "fly- flinging" time is here again.

Definition of pink elephant: a beast of bourbon.

I wish I was a widdle egg
  Away up in a twee.
I wish I was a widdle egg
  As wotten as could be.
And when someone whom I disliked
  Would come awound that twee,
I'd take my widdle wotten self
  And throw myself at he!



"FIGHTER—ISN'T HE!"

PENNSYLVANIA REPTILES & AMPHIBIAN

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 11 Snakes

NORTHERN HOG-NOSED SNAKE (Heterodon contortrix contortrix) . . . Maximum length 3 feet, 6 inches; "hog-nosed" comes from its turned up snout which makes identification easy; although entirely harmless, it is widely feared because of its bluffing antics, which include hissing, striking, neck-spreading and convulsive movements; common names include "spreadhead," "puff adder," "sand viper," and "hissing adder"; commonly found on sandy beaches and mountain ridges; favorite foods are toads and frogs; lays eggs; found in 24 counties.

HOG-NOSED SNAKE PLAYING 'POSSUM . . . Most spectacular par of this snake's defensive actions is its ability to feign death; if a poten tial enemy is not frightened by the preliminary hissing and nec spreading, the serpent rolls over on its back, goes through several con vulsive movements and lies still; to all appearances it is dead, but if i is now turned right side up, it will immediately flop over on its bac again; if permitted to repose in peace for awhile, the snake eventuall will right itself and crawl away.

DEKAY'S BROWN SNAKE (Storeria dekayi dekayi) . . . Maximum length 17¼ inches; often mistaken for a garter snake, but lacks the three light-colored stripes that characterize that snake; is brown or gray with keeled scales and a double row of faint black spots which border a faint central light stripe; often found in gardens, open fields and under trash in vacant lots; feeds largely upon slugs, snails and earthworms; adult females bear nine to 20 living young; found in 37 counties.

ALBINO DE KAY'S BROWN SNAKE . . . Although uncommon albinism is well-known among snakes and has been recorded for man species; characterized by absence of dark pigment throughout the in dividual, the red blood vessels showing through the white skin; eye are pink; usual pattern of DeKay's Snake shows faintly; melanism an even yellow and red mutations (xanthism and erythrism) are known t occur in some kinds of snakes; specimen pictured here was found in rock garden in Allegheny County.

NORTHERN RING-NECKED SNAKE (Diadophis punctatus edwardsii) . . . Maximum length 21 inches; a smooth-scaled snake easily recognized by the yellow ring which encircles the neck; body slate-gray with yellow or orange belly; often found in wooded areas, but is secretive in its habits; feeds on earthworms, salamanders, small frogs and insects; lays from one to seven eggs in June or July from which 5-inch snakelings hatch in about two months; recorded from 50 counties.

NORTHERN RED-BELLIED SNAKE (Storeria occipitomaculata oc cipitomaculata) . . . Maximum length 15⅛ inches; bright red bell is best identification, although occasionally, a specimen has a bluish black belly; has keeled scales and three faint gray blotches encirclin the neck; a frequent burrower, most common in upland areas; feeds o slugs, earthworms and insect larvae; bears one to seven tiny young i August or September; found in 34 counties but rare or absent in south east.

Y SPECIAL AMENDMENT OF THE FISH LAWS PASSED BY 1949 LEGISLATURE AND RESOLUTION OF THE COMMISSION—ALL FISHING IS PROHIBITED IN ANY WATERS FROM MARCH 14 TO APRIL 15, 1950, EXCEPT IN RIVERS, LAKES, OR PONDS NOT STOCKED WITH TROUT

THE FOLLOWING IS A LIST OF WATERS CLASSIFIED AS RIVERS IN PENNSYLVANIA

Name	*County*	*Tributary To*	*Basin or Sub-Basin*
Allegheny River	Allegheny	Ohio River	Ohio
Ashtabula River	State of Ohio	Lake Erie	Erie
Beaver River	Beaver	Ohio River	Main Ohio
Beaver (Little) River	Beaver	Ohio River	Main Ohio
Beaver (Little) River, North Fork	Beaver	Little Beaver River	Main Ohio
Black River	Northampton	Saucon Creek	Middle Delaware
Casselman River	Somerset	Youghiogheny River	Monongahela
Cheat River	Fayette	Monongahela River	Monongahela
Chemung River	Bradford	NB Susquehanna River	UNB Susquehanna River
Clarion River	Clarion	Allegheny River	Middle Allegheny
Clarion River, East Branch	Elk	Clarion River	Middle Allegheny
Clarion River, EB Middle Fork	Elk	East Branch Clarion	Middle Allegheny
Clarion River, West Branch	Elk	Clarion River	Middle Allegheny
Conemaugh River	Indiana and Westmoreland	Kiskiminitas River	Lower Allegheny
Conemaugh (Little) River	Cambria	Conemaugh River	Lower Allegheny
Conemaugh (Little) River, NB	Cambria	Little Conemaugh River	Lower Allegheny
Conemaugh River, S. Fork	Cambria	Little Conemaugh River	Lower Allegheny
Cowanesque River	Tioga	Tioga River	UNB Susquehanna
Cowanesque River, North Fork	Tioga	Cowanesque River	UNB Susquehanna
Delaware River	Delaware	Delaware Bay	Delaware
Delaware River, West Branch	Wayne	Delaware River	Upper Delaware
Elk River	State of Maryland	Chesapeake Bay	Lower Main Susquehanna
Genesee River	Potter	Lake Ontario	Genesee
Genesee River, Middle Branch	Potter	Genesee River	Genesee
Genesee River, West Branch	Potter	Genesee River	Genesee
Juniata River	Perry	Susquehanna River	Susquehanna
*Juniata River, Frankstown Branch	Huntingdon	Juniata River	Upper Juniata
*Juniata River, Raystown Branch	Huntingdon	Juniata River	Upper Juniata
Juniata (Little) River	Huntingdon	Frankstown Branch	Upper Juniata
Kiskiminitas River	Armstrong and Westmoreland	Allegheny River	Lower Allegheny
Lackawanna River	Luzerne	NB Susquehanna River	LNB Susquehanna
*Lackawanna River, East Branch	Susquehanna	Lackawanna River	LNB Susquehanna
*Lackawanna River, West Branch	Susquehanna	Lackawanna River	LNB Susquehanna
*Lackawaxen River	Pike	Delaware River	Upper Delaware
*Lackawaxen River	Wayne	Lackawaxen River	Upper Delaware
*Lehigh River	Northampton	Delaware River	Middle Delaware
Mahoning River	Lawrence	Beaver River	Main Ohio
Monocacy River	State of Maryland	Potomac Creek	Potomac
Monongahela River	Allegheny	Ohio River	Monongahela
Ohio River	Beaver	Mississippi River	Ohio
Potomac River	State of Maryland	Chesapeake Bay	Potomac
Schuylkill River	Philadelphia	Delaware River	Lower Delaware
Schuylkill River, West Branch	Schuylkill	Schuylkill River	Lower Delaware
Schuylkill River, West-West Branch	Schuylkill	W. Branch Schuylkill River	Lower Delaware
Schuylkill (Little) River	Schuylkill	Schuylkill River	Lower Delaware
Schuylkill (Little) River, East Branch (or Still Creek)	Schuylkill	Little Schuylkill River	Lower Delaware
Schuylkill (Little) River, W. Branch	Schuylkill	Little Schuylkill River	Lower Delaware
Shenango River	Lawrence	Beaver River	Main Ohio
Shenango (Little) River	Mercer	Shenango River	Main Ohio
Susquehanna River	Lancaster and York	Chesapeake Bay	Susquehanna
Susquehanna River, North Branch	Northumberland	Susquehanna River	Susquehanna
Susquehanna River, West Branch	Northumberland and Union	Susquehanna River	Susquehanna
*Tioga River	Tioga	Chemung River	UNB Susquehanna
Youghiogheny River	Allegheny	Monongahela River	Monongahela

* See following list for rivers and sections in which fishing is prohibited.

THE FOLLOWING IS A LIST OF RIVERS, OR SECTIONS OF RIVERS, LAKES, AND PONDS WHICH ARE STOCKED WITH TAKABLE TROUT BY THE COMMISSION, AND IN WHICH FISHING IS PROHIBITED UNTIL 5 A. M. APRIL 15, 1950.

RIVERS

Allegheny River, **Potter County**—Stocked from the vicinity of Coudersport upstream to the vicinity of Seven Bridges, about 8 miles.

North Fork of Little Beaver River, **Beaver County**—Stocked from the vicinity of Darlington upstream to the Beaver-Lawrence County line, a distance of approximately 5 miles.

East Branch of Clarion River, **Elk County**—Stocked from the vicinity of Instanter to Glen Hazel, 7 miles.

West Branch of Clarion River, **Elk County**—Stocked from a point known as Rolfe, just north of Johnsonburg, upstream to vicinity of Wilcox, miles.

North Branch of Little Conemaugh River, **Cambria County**—Stocked from above the Wilmore Dam upstream 4 miles.

South Branch of Conemaugh River, **Cambria County**—Stocked from where the road crosses the stream above Lloydell upstream to Summit Hill Water Company Dam, 3 miles.

Genesee River, **Potter County**—Stocked from the New York State line to West Bingham, 5 miles.

Middle Branch of Genesee River, **Potter County**—Stocked from the vicinity of Harmonstown upstream to George Williams farm, 6 miles.

West Branch of Genesee River, **Potter County**—Stocked from the vicinity of Ellisburg to Genesee, 5 miles.

Frankstown Branch of Juniata River, **Blair County**—Stocked from the mouth of Pine Run downstream, to McDonald Run, 9 miles.

Raystown Branch of Juniata River, **Bedford County**—Stocked from the vicinity of Bedford upstream to Somerset County line near New Baltimore, 18 miles.

East Branch of Lackawanna River, **Susquehanna County**—Stocked from the vicinity of Herrick Centre upstream to near the source, 5 miles.

West Branch of Lackawanna River, **Susquehanna County**—Stocked from the mouth (near Uniondale) upstream to Burnwood, 5 miles.

Lackawaxen River, **Pike County**—Stocked from the vicinity of Lackawaxen upstream to Pike-Wayne County line, 12 miles.

Lackawaxen River, **Wayne County**—Stocked from the vicinity of Prompton upstream to the source at Beaver Meadow Reservoir, 22 miles.

Lehigh River—Stocked from about two miles below White Haven upstream to the source. This would include section bordering on Luzerne and Carbon Counties, Monroe and Luzerne Counties, Lackawanna and Monroe Counties, Wayne and Lackawanna Counties—a total distance of about 30 miles.

LAKES AND PONDS

Adams County—Hartman Dam on Marsh Creek—3 acres in Franklin Township. Chambersburg Water Company Reservoir on Birch Run—22 acres in Mountain Township.

Bedford County—Thomas W. Koon Lake on Evitts Creek—268 acres in Cumberland Valley Township. Beaver Run Rod and Gun Club Dam on Beaverdam Creek—1 acre in Kimmall Township. Replogle Dam on Yellow Creek—6½ acres in Woodbury Township.

Centre County—Metzgers Dam on Spruce Creek—1½ acres in Ferguson Township. Roosevelt Dam on Stoney Creek—3 acres in Potter Township. Penns Cave Dam on Penns Creek—4½ acres in Potter Township. Poe Valley Dam on Big Poe Creek—27 acres in Penn Township. Green Valley Dam on Little Fishing Creek—2 acres in Walker Township.

Clinton County—Woolrich Water Company Dam on Chatham Run—5 acres in Pine Creek Township.

Cumberland County—Wade Dam on Hogestown Run—3 acres in Silver Springs Township. Boiling Springs Lake on Yellow Breeches Creek—9 acres in South Middleton Township. C.C.C. Dam on Hairy Spring Hollow Run—3 acres in Southampton Township.

Erie County—Lake Pleasant on Branch of Alder Run—60 acres in Southwestern Venango Township.

Forest County—Ward Ranch Pond on Coon Creek—10 acres in Kingsley Creek Township.

Huntingdon County—Greenwood Furnace Dam on E. Br. of Standing Stone Creek—3-34/100 acres in Jackson Township. Whipple Dam on Laurel Run—15 acres in Jackson Township. Barree Dam on Barree or McClain Run—2 acres in Porter Township.

Jefferson County—Manner Run Dam on Manner Run—1 acre in Polk Township.

McKean County—Kushequa Pond on Kinzua Creek—13 acres in Hamilin Township.

Monroe County—Snowhill Lake on Mud Run—3 acres in Price Township.

Montgomery County—Upper Perkiomen Valley Park Lake on Deep Creek—38 acres in Upper Frederick Township.

Snyder County—Meisers Mill Dam on West Branch of Mahantango Creek—2 acres in West Perry Township.

Union County—Halfway Dam on Rapid Run—6 acres in Hartle Township.

AN EVEN BREAK! FOR EVERYBODY

SPECIAL NOTICE!

"By Special Amendment of the Fish Laws passed by 1949 Legislature--All Fishing is Prohibited in Any Waters from March 14 to April 15, 1950, Except in Rivers, Lakes or Ponds Not Stocked with Trout."

PENNSYLVANIA FISH COMMISSION

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HON. JAMES H. DUFF, Governor

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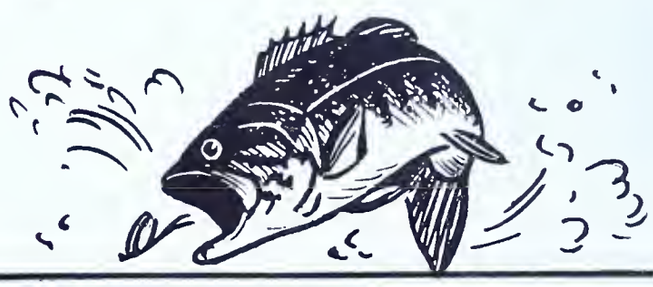

OMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
ISH COMMISSION
HARRISBURG, PA.

The Angler

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Water Fall Marshall Creek
Monroe County

Reel and Trigger

By *Mort White*

The morning was clear, cold and crisp—a winter morning. We were going about our daily chores in the process of making what, in these days, is quite correctly referred to as a living. At that moment, our mind, if we may so consider it, was concentrated on drab business matters. We came out of the mental fog for just an instant to glance at the face of a passerby and pulled up short. Away went all thought of business. Away went the chill of the winter morning. Suddenly the sun was warm. For there stood Doc Lyte—and only the thought of trout and fishing was in our minds.

During the next 20 minutes, the market bag Doc was carrying changed hands eight times and for a while, lay upon the ground while he drove home a point or two with both hands.

Although the good doctor has foregone his fly casting for the past few years, his love of the sport has never waned and he is full of the lore that a man comes by only with the passage of time. We talked flies,—pattern, color and size. We talked stream, slow, fast, deep and shallow. We discussed the specific spots,—how and when to fish them. We debated day and night fishing and the tricks employed by both the angler and the fish. And as always, it was us and not the doctor who learned something.

Harvey W. Lyte, DDS, is a fisherman, a dentist and a gentleman. He is not a tackle store trout man. He made his trout rods and his lures. If one thing didn't get 'em, he manufactured something that did. He probably doesn't consider himself as such but to us he is one of the pioneers of today's methods of taking trout. To talk to him is to pick up information which you will otherwise come by only through years of fishing and observation.

We talked about big fish and how they are to be had. Thinking back, Doc remembered the lunkers that came from the big Lehigh where the Tobyhanna flows into it. They were taken after dark on big, brown Palmers. Great fuzzy wet flies tied on—not 14s, 12s or 10s—but No. 4 hooks. Oh, occasionally somebody turned one up during the day, but if a guy wanted a half dozen show fish he came prepared to lose some sleep and armed with Palmers.

Yes sir, it was good to talk with Doc. It was good to do a little mid-winter fishing. It was almost as though we were standing in the stream layin' 'em out on the water in the shade of the birches.

Oh well, you know what it's like. Those hours spent between now and April 15th next, in reminiscence and planning are almost as good as the actual doing. Great sport ain't it?

Well,—gotta go back to work.

Ecological Sense or Nonsense

ALVIN (BUS) GROVE

The depletion of our fish resources is alarming. An occasional glance at articles appearing in our various sporting and news magazines and the comments of fishermen themselves all point in the same direction. Recently I read an article, as many of you did, which commented on the fact that the number of pounds of fish in the Great Lakes has decreased to a level where in many cases commercial fisheries cannot possibly catch enough to pay their way. In this case it was the lamprey eel, which attaches itself to the game fish and finally kills it. For years I have read and listened to the stories of the old timers of the wonderful fishing that used to be available on Spring Creek, where in less time than it takes to write about it, it was possible to catch a limit of thirty-five or twenty-five trout. Letters and diaries of historical interest describe the visits of men from England in colonial times, coming to fish for Brook trout on various streams in our northern tier counties. The shad industry on the Susquehanna was a thriving business for years, and so the stories go on and on.

What has happened to all this wonderful fishing? No doubt there are many answers, and most of them have been given at one time or another. An obvious one, which has been generally overworked, is that with the increase of population it was necessary, and still is according to some, to be willing to sacrifice our natural resources. Many of our streams were sacrificed to ignoble uses, and our forests, which provided the necessary ground cover for stream protection, were plundered of their value and only their remains were left. We were quick to learn to dump our refuse into the streams because that was by far the simplest thing to do, and since we assumed that the streams were common property, we were satisfied that everyone in turn could use and abuse them to suit his own ends. Ironically enough it was the stream which everyone claimed that was usually abused, while the privately owned water was protected. Many of our best streams today are those regulated and protected by private owners, either an individual or perhaps a club. Most of us would like to see all streams open to anyone who cares to fish them, but as we might acquire this privilege, so must we gain a respect for our streams and contribute to their improvement, and survival. Today we are working hard to purify our streams, and much good has been done. For this all of those real conservationists involved are to be heartily congratulated. It is indeed gratifying to read in the ANGLER, the *Federation News*, and in other articles that the Schuylkill has clear water in it for the first time within the remembrance of most of the residents living in that watershed. I read the other day that the Swatara Creek is also clearing, and if that is possible, then nearly anything is. I can remember swimming in the Swatty twenty-five or thirty years ago, and it was so full of the washings from the coal collieries that anyone who was so unfortunate as to open his eyes underwater had them as full of dirt as a farmer caught in the middle of a twister in the Panhandle of Texas. All these aspects of the Pure Stream Project of the state are admirable, but there are several other matters involving our streams and their contents about which something should be done.

There is at least one thing that the fishermen of the state must decide to do if we are to improve our own fishing and take advantage of the new water which will become available to us. One point of conservation that must be undertaken by us is to maintain whatever improvements already exist in the habitats that our fish now live in. Obvious a fish must have more than wate and though a fish out of water is little use and has a life expectan of practically zero, even in it h outlook for life might be of equal short duration. Our trout, bas pickerel, pan fish, and others requi not only pure water in their habit but also adequate cover and a sufficie supply of food as well. In many i stances to this must be added prop spawning locations for natural prop gation. As far as the fisherman is co cerned, there is little advantage adding new, clean water to that whi already exists in the state unless w are also prepared to improve the n tural food and cover conditions. Th needs of fish are not particularly di ferent from those of grouse, deer, rabbits in that food and cover a equally as important in the tot picture of conservation as pure wate

In many instances our fishing bus ness has become, of necessity, a gan of put them in and take them ou As a matter of fact, we often co gratulate ourselves on the fact th at least a reasonable percentage the stocked fish lives long enough f us to catch them. The ultimate a surdity, of course, would be to sa the time and expense of putting the in the stream at all, and just perm the fisherman to buy his licens

The cover of an overhanging bank has been destroyed here, and the habitat of considerabl food material has been disturbed. The limbs, cut from the tree, formerly provided additiona but limited cover.

A small stream which has been improved. Although small in size, the number of trout arried by this stream is phenomenal.

tvel to the nearest hatchery, and gt in line to receive his pound or to of fish. Now, of course, none o us would want this, although I hve seen several fishermen whose insitence and persistence in catching a ertain poor fish might make it appear ts way. We like to think at least tlat the trout is raised and placed iits natural environment, and as a rest of our skill it is caught as fair ad legal game. Unfortunately there ae many problems along the line of rsing, stocking, and then catching the fish. Even when enough are rsed, there is the problem of stockig them properly in streams which ae open, within a reasonable distace of the hatcheries, accessible by rad, and available to the fisherman i all respects. Provided they are a properly stocked, there is the addional problem of how is the fisherman going to catch them before they ae killed by snakes, bear, coon, and pedatory fish, or indeed by high water tmperature, a dry stream, or perhps starve to death as a result of isufficient food.

There is no point in acquiring pure vater which has a food supply in it iadequate to support the fish populion which might live there. There i no point in acquiring pure water i its temperature soars to the high rneties in the summer months or hich in periods of drought disapars entirely. The sanitary engineer cn concern himself with removing cjectional material from our creeks and rivers, the health inspector can pronounce it pure enough to drink, the athletic coach can claim that it is safe water in which to swim. But what has this to do with the fish and the relationship of the fish to stream quantity, stream temperature, stream cover, and stream food? If any of these factors is adverse, the fish population will not exist; or if there now, will disappear in the near future.

While we are improving the purity of our water, in some places we are shoveling away the stream bed and destroying the natural habitat and cover of the fish and its food. Of course flood control is important and necessary, but much of the advantage of reclaiming water is lost with the destruction of these habitats. We reclaim pure water and at the same time continue to remove our forest cover, into which rainfall penetrates to remain as a rather constant reserve. The stream temperatures soar so high that many fish, and in some cases all of the fish, are killed. We regain ten miles of new water, only to lose twelve or fifteen to high temperature during the summer months. All of us know of this condition, and the answer is not easy nor immediately forthcoming, but nevertheless it should not be neglected. After the first of June the trout fishing in lower Kettle Creek is practically nonexistent because of the increased water temperature. Last summer the stream temperature in such a famous branch as Cross Creek was seventy-five degrees and the fishing poor except in certain spring holes, the mouths of runs, or in limited stretches with adequate shade and cover. Last summer in late June, stream temperatures in Spring Creek in Centre County

(*Turn to page* 21)

This large spring went dry in 1949 for the first time in local history. It was necessary to bulldoze it to a depth of about twelve feet, down to bedrock to locate the old spring. The drilling of a number of new wells in the drainage area this spring makes its survival problematical, even though in times of abundant rainfall it might contain water.

TROUT PROJECT AT RESACA By JACK ANDERSO

"Meet you at the store at four o'clock. Paul Bittenbender's coming down from Kingston and we got a deal cooking."

"Yeah, but I figured on getting out to the Brodheads tonight. Been after a big one a week now and he's due for another swing at the breadcrust."

"You're worrying about *one* fish. We're worrying about thousands of fish. Come on!"

It was Tom DeVivo, fish committee head of Pocono Mountain Sportsmen's Association, excitedly shouting into the telephone. Other members of the association knew that another project was in the air. This same team—DeVivo of the association, Paul Bittenbender of the Commission—had spearheaded drives resulting in open waters on Brodheads Creek from Penn Hills Lodge to the end of the Stroudsburg Water Company tract. We'd heard them talking with Frank Smith, who knows the Bushkill district about as well as anybody, and there had been rumors of new open waters.

So the breadcrust didn't get wet that evening. Instead, three of us, Paul Bittenbender, Tom DeVivo and myself, followed the winding, hilly blacktop road to Resaca. Frank Smith and Fred Batcheler were leaning against the white concrete sides of the bridge, waiting.

If there is a better trout stream in the Poconos than Brodheads Creek, it's the Big Bushkell. Like a crosscut saw it has jagged through the heart of a mountain. And it tumbles down the Pocono in a series of foamy waterfalls which annually attract thousands of tourists.

At many places Big Bushkill Creek squirms through tall rocky gorges. Hemlocks shade it; laurel and rhododendron often run ragged, intertwined arms to its shore-line. Very little civilization touches the stream. It pours for the Delaware, untamed, for the most part little-fished, an ice-cold home of wild scarlet-bellied natives as well as stocked fish.

We viewed the stream from Resaca Bridge. Above, we saw a stretch of wild water, with waxy stones creating glassy swirling pools, and with many side-currents, where dark rapids slid mysteriously under driftwood and brush. Here and there flies hung in the air, appearing almost as smoke-patches against the afternoon sun. Chubs acted like tiny acrobats in the slower pools, and sometimes in dark currents quick swirls revealed the activities of trout. As ever, it was a great sight for fishermen. But for years the waters had been posted.

Below thundered Resaca Falls, a long-popular tourist attraction. We walked down a fresh bull-dozed side road and down neat stone steps to the flat boulders below the falls. Here we snapped pictures of the falls. Here, too, Frank Smith told me something of the "deal."

Recently the Resaca Realty Corporation had purchased an immense tract that included (roughly) seven miles of Big Bushkill Creek. Genial heads of this unit prefer to be anonymous. But Frank Smith said: "We found right off these boys weren't just another club. They aren't looking for private fishing. In fact they have *no* objection to public fishing as long as it doesn't stop them from attracting tourists. We've been prodding them to open this to the public for state stocking and it looks as if they might go along just like the Brodheads, for fly fishing only and with restricted hours. It *looks* that way. But keep your fingers crossed!"

We knew Frank Smith's meaning when he said: "Keep your fingers crossed!" . . . And now seems a pretty good time to let everyone in behind scenes.

Members of the Pocono Mountain Sportsmen's Association are little guys, a few with holdings but all of them small; but we get the brunt of complaints from land-owners. And we say that, as a whole, they're a fair bunch of fellows with some justification for "posting." Open your e at these stories.

You know that the Commissi ruled the past couple years, and a sane obvious reason, that at le three miles of stream should be op without intervening posters to obt state stocking. Well, on Big Bushl we were fighting hard to keep c quota. Then the news struck, a struck hard. Fish Warden Flo Bachman of Stroudsburg told us t inside story. A landowner wh holdings were in the middle of t open stretch had a small swimmi pool in the creek directly in front his cottage. A fisherman was whippi this pool when that owner's daugh decided to take a swim and saunte to the creek in her bathing suit. soon as she dipped her toes in wa the fisherman howled "You're ruini my fishing!" and called her a v name.

Two weeks later, a neighboring c tager returned to his summer ho and found that someone had defecat on his front porch.

These two incidents had closed t previous open stretch on the Big Bu kill. The incidents are fact, not rum Think it over—ask yourself who is blame for many of our closed stretch Isolated incidents, yes; but we've tak dozens of similar complaints. T Poconos are a wild country, and wh alone in the forest, people do stran things.

Upstream from Resaca Bridge.

ways a tense moment. "How big are they?"

o we felt that these well-meaning i gentlemen were hearing these ties, and our fingers were crossed. t wasn't easy, that afternoon. The cporation had a tremendous investnt and wanted to protect it. Their n intention was, of course, to cater he summer tourist trade; to charge parking to view the falls, and to n refreshment stands. We pointed that public fishing, if anything, uld increase trade. Coporation offiis agreed, yet expressed concern t fishermen would interfere with ilies out for a picnic. We tried to the them about this.

he conference was long-lasting. Nor s it the last. There were further lanations. The corporation's lawyer to be contacted. And while talks e going on, we began to see other blems.

nother hurdle would be to get the s. We felt confident about this, for mmissioners French and Bittender were working hard with us and n't failed us on the Brodheads ject.

aving gotten the fish, however, yd Bachman pointed to a big stock problem. Roads were poor over of the stretch which had roads. st of the stretch had no road. ho's going to carry in all of the s?" was the natural question.

nd the question brought forth nge solutions. A canoe or rowboat s proposed. But the summer's ught had reduced the Big Bushkill other Pocono streams) to a nearord low. Jake Kintz thought somey should invent some sort of craft ch would dissolve, so that you ld dump the fish into it and float m downstream. Finally somebody tioned our new Junior Sports's Association, and this sounded d.

ithin a week after our long afteon's conference, the news came: the aca property along Big Bushkill Creek was open to public fishing under the identical rules of the Brodheads Project. These were, briefly: artificial lures only; creel limit, six per day; length, eight inches; fishing hours, four in the morning until ten at night. There was to be no fishing at any time in a special reserve immediately above and below the falls. (If you wonder why, did you ever take a gal to see a falls?)

Well, there it was. We got excited.

The first big job was posting club signs, which said, in effect: Welcome sportsman; but obey the rules so we can help you to more and more good fishing. Our junior club, which in Monroe County are now one hundred strong, helped in the posting chore. Marlin Martz, young club president, is all business when on a project and is a great prospect for senior club presidency.

It was tough work. I've told you something of terrain. As a golf link, you have to "run the course" to fully appreciate. There are few comfortable steps in that forest. Crawling over windfalls, sliding down slopes, crawling rocks and hills, inching like a mountain goat along near-precipices; these are common hurdles. We were soon telling one another we never knew posters, boxes of tacks, and hammers, could get so heavy. But it was fun—and there was better fun to come.

Far downstream, junior sportsmen dump trout.

For the Commission didn't fail us. A truckload of browns and rainbows arrived from Bellefonte a couple of weeks later. Without exaggeration, it was the finest load of trout imaginable. Browns of sixteen and rainbows of fourteen were common, and the run-of-the-mill was ten inches or better. They arrived at Resaca on a hot, sticky afternoon, and senior and junior sportsmen met Floyd Bachman and the truck, ready and eager to go.

That afternoon impressed upon us the great value of junior sportsmen. The humidity bothered *us,* but it didn't hamper the kids. They teamed up and carried pails-full of trout down the longest stretches, stocking trout far from the road. To them, it wasn't work. The forest rang with their whistles, laughter and boyish talk. They voiced regret when the job was done.

Which couldn't be said of we older fellows. It was four-thirty when the last trout slipped into Big Bushkill Creek, and we sighed with relief. But we felt also, a pride in that something worthwhile had been accomplished. And we saluted Tom DeVivo, Frank Smith and Commissioner Bittenbender on a job well-done.

Of course, there were the calamity-howlers. Two days after the stocking, a voice informed me on the telephone that Bushkill Creek was floating full of dead trout. "What's wrong, were those fish sick when they arrived?" came the challenging question.

Stroudsburg, East Stroudsburg, Marshall's Creek, hummed with this rumor of dying trout. The thing was painted as a disaster. Yet members of our club investigated. Other members fished the stream just about every evening. Strangely, those dead truot seemed to disappear into thin air. I caught a few of those trout myself and they gave excellent accounts of themselves. I never saw a sick man dance the way those rainbows danced after the hook set in.

The Resaca Falls Project was opened too late last season to be fully enjoyed by sportsmen. This year, the Pocono Mountain Sportsmen invite you to try your luck, remembering, as you fish, that here again is an example of Sportsmen-Commission teamwork, and a trial ground for the conduct of fishermen. The Poconos may someday not too distant be a favorite stamping-ground if we all remember those lessons which closed one stretch of the Big Bushkill a year ago.

Another dip-net of wriggling trout coming up.

CALENDARS, THERMOMETERS AND BAROMETERS, OR—IT DOESN'T MAKE SENSE

By N. R. CASILLO

Some time ago Bob Stewart bought himself a thermometer and rigged it for taking stream and lake temperatures. The line attached to the gadget is marked off in feet so that a glance suffices to show him at what depth the device rests.

Last year's opening of the bass season found us in a rowboat anchored off the concrete wall on the north side of the entrance to Erie Harbor. Sharing the spot were some fifty other craft ranging from modest scows to elegant cabin cruisers.

For a half hour or so the fish took hold briskly; any one using soft shelled crabs being constantly busy at some phase of the capture. It was fun while it lasted. Then, for one of those reasons known only to the fish themselves, they abruptly quit biting.

After a lull of some fifteen minutes, Art Alexander growled, "What the deuce has happened to them?"

A minute or so of silence followed Art's query, then Bill Klee suggested that we move.

"Where to?" I enquired.

"Oh, off the monument near Misery Bay or anywhere," he helplessly trailed off. "It's getting too crowded here to suit me."

In the meanwhile, Bob had opened up his tackle box and had gotten out his thermometer. "Well, while you guys are making up your minds I'll take a reading or two." With that he dropped the gadget into the water.

I curiously followed Bob's procedure. At fifteen feet he struck bottom. Then, carefully and slowly lifting the device he stopped at twelve and asked, "Wouldn't you say that they were taking hold at about twelve feet?"

"Yeah, that would be my guess," volunteered Bill.

In three or four minutes Bob quickly raised the thermometer and took the reading. "Sixty at twelve," he sang out like an old river pilot.

With no little difficulty we treaded our way out of the maze of boats around us and headed for Misery Bay.

After agreeing on the general location Bob once again lowered his outfit and began taking readings at various depths. On the third trial he got a reading of sixty at ten-feet. There we anchored.

It wasn't long before some one hit paydirt. It was the gadgeteer himself as he quietly observed, "There's a run, now."

"I've got one, too," Bill chimed in.

By the time the bass slowed up at this spot we had what we considered our quota. Please note that it was the creel limit.

Recall that we were using soft shelled crayfish. And every successful fisherman that we encountered that day had also used them. Invariably, the few we asked that had used a variety of other live and artificial baits had caught little or nothing.

From the immediately foregoing we can formulate a hypothesis, *to wit:* Would we have been as successful fishing in depths of any temperature just so long as we used crabs or would any baits pay off if used in water where the crabs proved successful? Now, don't let this bit of illogical reasoning throw you, because it doesn't make sense—or does it?

Delving still farther into the mysteries of temperature, we have discovered much to our amazement, that it frequently works, i.e., under similar conditions of bottom topography, depth and the use of similar baits, similar species of fish will respond similarly. You couldn't help but notice that the word *similar* in the preceding sentence was grossly overworked. And that's just it. If all conditions jibe you may expect similar results in different locations providing the environmental conditions are similar. If this doesn't make sense, then, skip it.

Putting this gamy little bass through its paces is Hayes Englert, assistant in the law enforcement division of the Pennsylvania Game Commission.

Bill is a fall-guy for fishing endars. However, where is the or even slightly enthusiastic fis man who isn't? Whether they w or not is not the question. No have one is one of those tragedie the complete angler's proclivities. in my weaker moments I someti find myself wondering if the orig tors of the several types that I h and assiduously use, aren't tryin get the fishermen out at certain ti so that they, i.e., the originators, have the fishing all to themselve those dates when the fishermen instructed to remain at home. Pe the thought.

A couple of years ago, Bill a and Doc Rogers were compelle take an important fishing excur at a time when the little fish use the calendar we consulted, were blank as some blondes that we l known.

"What a predicament," moaned in which sentiments he was abetted by both Doc and I.

"Well, there's no way out, w simply got to go, now that we've n the arrangements," sadly giggled good doctor.

"Yeah, that's too bad," I agreed a joyful moan.

Here and now let me record never was a fishing trip more suc ful. Despite the blank fish, the moon and the high water, the fis was superb.

Ten days later while in the h house paying off the outfitter whom we had rented the boat, who was standing a little aside, n a sort of a choking sound and fi blurted, "Hey, fellas, lookey here

With a trembling forefinger Doc pointing to a calendar hanging on of the walls. In turn his finger swo from one date to another until he indicated at least seven of them. eral of them corresponding to the of our stay were embellished little fish as black as the ace of spa

Right then and there Bill ado that calendar, too. Later, when a which of the two that he had w he believe, he replied, "Why, Don't they supplement each ot Anyway," he went on, "when an my prospective companions bal taking a trip because the signs are right, I bring out one of them show him that he's wrong."

"Well, here's another that will help such a situation," smiled Do interrogator. With that he toss calendar on to Bill's desk.

Late winter with its uncertain weather spurs the suckers into action. These sucker fishermen are at the junction of the east and north branches of Neshannock Creek in Lawrence County. NOTE: No fishing at all in trout streams from March 14 to April 15.

omparison it was found that besides greeing with some of the days on oth of Bill's calendars, there were ome that neither of the others inuded.

With a grin Bill said, "There, now, can show any doubting Thomas that ractically every day in the year is good fishing day."

Isn't that the way of all men, all shermen, especially? Even if an aner doesn't believe in them he neverneless derives a certain amount of enuine satisfaction when he discovers hat certain days on any fishing calndar coincide with the dates he has hosen for a fishing jaunt. It's also n ingenious device, no less, for conincing one's wife.

In 1949 my last trout fishing trip f the season was on a Friday falling n about the middle of June. It was day in a million; brisk air, bright unshine, a ghost of a breeze and verything else that adds up to an deal day to be astream.

The stream itself, the Caldwell in Warren County, was in top condition nd insects were much in evidence. can't miss, I thought, and I didn't. When I called it a day late that afternoon, I had a satisfying catch of trout. Had all of my time been devoted to shing I could have easily caught the reel limit thrice over.

Oh, yes, while engrossed in recording the bunch of adjectives appearing couple of paragraphs earlier, I forot to mention that the barometric ressure that morning was high, just s high as it was consistent for the ype of weather that prevailed. A lance at the instrument that morning resaged to a nicety just the kind of a day that it turned out to be. Yes, sir, everything had progressed according to Hoyle or whoever it is that is the authority on such things.

My initial sally during the 1949 trout season was on a day just the opposite of the one just described. It was gloomy, sleety and cold. Whenever the rain squirted down along with the sleet, which it did sporadically, it was driven by a fitful wind. The barometer reading? Well, the mercury was trying to crawl down into the cup.

The stream, that selfsame Caldwell, was running high and a bit roily. The temperature was such as to actually form icicles. The fishing? It was superb. When I called it a day around toward noon I had a satisfying catch of trout.

Now, despite these two thoroughly contradictory examples, barometric pressure has a decided influence on the proclivities of aquatic denizens, especially on those kinds sporting fins and scales what with water pressure, lateral line and all. But, what that influence is has the savants themselves a wee bit befuddled. It's a stab in the dark, but let's say that fish are affected even as we are. Did you ever notice your appetite or the lack of it when the air is warm and muggy and supercharged with moisture? On the other hand, that does not explain the avidness of piscatory appetities on such days. Indeed, all too frequently fish activity is completely antithetical to human energy. So, you see we can get nowhere following that line of reasoning.

Who knows but what fish are equipped with an anatomical apparatus that enables them to register atmospheric changes outside of their element just as soon as terrestrial dwellers themselves. You say that if such an apparatus existed the ichthyologists would have discovered it by now? Maybe, but have you forgotten that only weeks ago it was noted that birds acted peculiarly when they ran into an aeroplane directional beam?

This ability to record atmospheric changes may explain the behavior of fish before and after meteorological phenomenae have effected a change in the weather.

Last summer, toward the end of

(*Turn to page* 16)

Fish are more likely to be active just before or after a change in the prevailing weather. The overcast sky and the leaden water shown here indicate a change. Fishing was good.

Dale Furst Heads Up Federation!

At the 19th annual meeting of the Pennsylvania Federation of Sportsmen's Clubs held in the Forum of the Educational Building at Harrisburg, Saturday February 18, 1950, S. Dale Furst, Jr., an Attorney of Williamsport and one of Pennsylvania's foremost sportsmen was elected President of the Federation. Mr. Furst succeeds R. S. Cooper of Connellsville.

Elected First Vice President was J. H. Barkley of Punxsutawney and Second Vice President Ray Armstrong of Crawford County while Dr. C. A. Mortimer of Honesdale, Pa. was re-elected to the office of Secretary-Treasurer.

GOVERNOR DUFF SPEAKS

The meeting on Saturday was addressed by the Hon. James H. Duff, Governor of Pennsylvania who in no uncertain language reaffirmed his sincere interest in the conservation program in the state. The Governor stressed on his stream clearance program and insisted that he is vitally interested in seeing to it that his successor will carry the program into full force and effect. He was wildly received by the Convention who accorded him a rising vote of applause and confidence.

Resolutions as affect fishing in Pennsylvania and considered by the Convention are listed herewith. The source of origin of each resolution and the action taken by the Convention.

43. *Southeast Division*—Resolved: That the State Federation recommend to the Pennsylvania Fish Commission that fishing regulations for Fisherman's Paradise be changed to permit the legal killing or retaining of two fish per day there, instead of one—as was permitted last year. *(Rejected)*

44. *Northeast Division*—Whereas: A small portion of section of a stream is stocked with trout and the lower, or larger waters are barren or devoid of trout; and Whereas: We, the members of the Lackawanna County Federation of Sportsmen's Clubs, know that the closing of all streams stocked with trout will create less sucker fishing to the sucker fisherman, Therefore, Be It Resolved: That only the portion or section of a stream and its waters in the immediate proximity adjacent to the water stocked with trout be closed to all fishing between March 15th and April 15th. (Amended) *Only if the cost of posting the streams will permit. (Adopted)*

45. *Northeast Division*—Be It Resolved: That in the event that ice fishing for Pickerel is stopped, we the members of the Northeast Division want ALL ice fishing stopped or in other words no fishing through the ice for pickerel or fishing through the ice for any other fish. *(Adopted)*

46. *Northeast Division*—Resolved: That Chapter XII, Section 258 of the fish laws referring to appointment of special fish wardens be changed to read as follows: The Pennsylvania Fish Commission or upon a written application of a properly organized Sportsmen's Association and approved by the regular County Fish Warden may appoint one or a reasonable number of Special Fish Wardens for the County in which the application is made unless under the supervision of the regular Fish Warden of said county. *(Adopted)*

47. *Central Division*—Whereas: It is a well known fact that many fishermen while fishing for game fish catch suckers, chubs, fall fish and other less desirable species, and rather than return them to the water unharmed, throw them on the banks of the streams to die and rot, thus littering the stream banks, destroying the fish, the young of which provide food for game fish, and which are considered by many individuals as of considerable food value; Therefore, Be It Resolved: That the fish laws be amended to make it a violation of the same to catch a fish of any species and to dispose of it by throwing it on the banks of any body of water, and that the individuals so doing shall be punished by a fine of $10.00 for each fish disposed of in this manner. *(Adopted)*

48. *Southeast Division*—Whereas: There has been no full time Fish Warden in the County of Philadelphia for a number of years and the need for enforcement of the law is greater th ever; Be It Resolved: That the Sta Federation recommend to the Fi Commission that a full time Fish Wa den be appointed as speedily as po sible. *(Rejected)*

49. *Central Division*—Resolve That the area on Penn's Creek b tween Spring Mills and Weikert closed to all live bait fishing and th only artificial lures with barbless hoo be permitted in the taking of trou *(Rejected)*

50. *Southeast Division*—Wherea Commercial netters of migratory fi along the Delaware River are co stantly violating present netting la and are not only netting and retaini fish that they are legally permitted net and retain (shad, herring, etc but they are, as well, constantly ne ting and failing to return to the riv other fish life that legally may be tak only by hook and line—and thus th have drastically depleted the river its once abundant supply of fish f the sportsmen who have enjoyed fis ing along its banks; Now, Therefo Be It Resolved: That the Pennsylvan Federation of Sportsmen's Clubs p forth its best efforts to secure passa of legislation to prohibit all commerci netting of fish on the Delaware Rive *(Adopted)*

The following three pertain to t same subject:

51. *Central Division*—Resolved: Th effective July 1st, 1950, the salari of all fish wardens be placed on a sca comparable to those of the employe of the Game Commission. *(No actio*

52. *Northcentral Division*—R solved: That the Pennsylvania Fede ation of Sportsmen's Clubs use its f power and influence to induce the Fi Commission to raise the salaries of field representatives to a level equ to the salaries of the Pennsylvan Game Commission field representativ where equivalent responsibilities a duties are required. *(No action)*

53. *Northwest Division*—Wherea The present salaries of the Fish Wa dens are far below those received others in like positions, namely, Gan Protectors, etc.; Now, Therefore, Be Resolved: That we, the organiz sportsmen, recommend to the Pennsy vania Fish Commission, that an i crease in salary be granted to regular fish wardens, which will gi them the same salaries as those pa by the Game Commission to Gan Protectors of a comparable term service; said increase to be effecti (Amended) *as soon as the budget c be adjusted and the necessary mon be transferred from the propagati fund. (Adopted)*

Fish Dinner Cost Was $107

Fish dinners come a bit high at $107 a plate, as Donald Cessna of Cumberland Valley was ruefully ready to admit after he had been fined that amount by Justice of the Peace H. C. Bingham. Cessna, arrested by a fish warden, was charged with taking five rainbow trout out of season, using a gig, and fishing without a license.

MESSAGE OF C. A. FRENCH

xecutive Director of the Pennsylvania Fish Commission to the Annual Convention of the Pennsylvania Federation of Sportsmen's Clubs—in the State Forum—Harrisburg, Saturday, February 18, 1950

It is indeed a pleasure and a privilege once again meet and discuss with you program, progress and accomplishments the Pennsylvania Fish Commission.

Since your convention here in Harrisburg year ago, the Fish Commission has steadily d carefully advanced a well planned pro- m designed to improve public fishing in nnsylvania.

With revenues derived from the earmarked from each fishing license we are pro- ding very satisfactorily in our Fish Man- ement Program, a detailed resume of which attached hereto for your information. It important for you to know that the money marked from the $.25 increase in each ing license, except for the amount shown the Financial Report, is still in the Fish nd and will not be expended for any ng other than that for which it was ated.

Our system of fish hatcheries is on the nda for attention this year. Just like machinery in any successful industry uires improvement and expansion just too, does the machinery involved in the duction of fish need to be kept abreast h the march of time. A complete survey been made of our hatcheries. Our engi- rs have estimated it will cost approxi- tely one million dollars for the rehabili- on and expansion work necessary if we to produce the kind of fishing our sports- n deserve. No repair work has been done ce the war with the result that some of plants must have attention this year.

We will do a much better job when this rk is completed but we offer for your ormation our production and distribution ort for 1949 which we believe you will ee represents a fairly good job. We raised d stocked in the waters of our state last t year more pounds of fish than the com- ed production of all the states bordering nnsylvania. We are not satisfied with our omplishments but have been and will con- ue to strive to give you the best fishing sible.

Our engineers have completed their sur- of lake sites in the South Western section the state. While many potential sites were ninated by coal mining operations, there others still remaining and being inves- ated. The necessity of thorough investi- ion before starting construction was ved when two sites which had been ected as ideal during the first survey later re found to be worthless. Water flows re taken during the low period last year l the streams which supplied these sites re completely dry, and, of course, these ations were eliminated.

Please be assured that this work will con- ue until a complete survey of the entire te has been made and eventually we will e lakes in every section of our Common- alth where an adequate water supply is available, and topographical conditions make such construction possible.

Those of you who witnessed the dedication and stocking of Raccoon Park Lake in Beaver County last October will, I am sure, testify that no finer fish were ever stocked in any body of water in this Commonwealth, and we expect to have similar fish available for stocking such water areas as they are created in the state.

At your conference here last year I introduced the Chief of our newly created law enforcement division. We believe this particular branch of our department did a bang-up job in 1949, and with future reorganization we expect even a better job in 1950. The Refresher School for Wardens was revived during 1949 and conducted at The Spring Creek Project known as Fisherman's Paradise last September. This Refresher School will be conducted each year and the entire force kept abreast with new policies and changes in the laws as effects this important field of Commission activity. During 1949 we purchased for each of our officers a very fine pair of binoculars which, we believe will aid them materially in doing their work.

The amendment to the fish laws as enacted by the 1949 Session, prohibiting fishing in all the waters of the Commonwealth during the period, Midnight March 14th, to 5:00 A. M. April 15th—except rivers, lakes and ponds not stocked with trout, has, as you know, presented a rather controversial situation. For the purpose of clarifying this important change in the law, I have had prepared and circulated an explanatory pamphlet defining Pennsylvania waters classified as rivers and a listing of those lakes and ponds in which the prohibitory provisions of the act will apply. A copy of this pamphlet is also appended hereto for your observation and information.

It must be thoroughly understood that all creeks and streams in Pennsylvania no matter where located and no matter whether they are stocked with trout or not, are closed to public fishing of any kind during this period, unless they are classified as rivers.

I make a very urgent plea to each and every one of you men asking you to immediately contact your United States Senator, and members of Congress, urging that they support the Dingle Bill which soon will be before Congress again. This bill was passed at the last session but vetoed by the President. It is hoped that sufficient interest can be secured to again pass it, even over a presidential veto.

In conclusion and speaking for the Fish Commission I want to thank you for your unselfish assistance and cooperation during the past year and to assure you that without your good support our job would have been much more difficult." Thank you very much.

What's New in Fishing Books

Reviewed by Hugh Johnson

It is satisfying to observe that writers have at long last begun to pay some attention to the needs of the beginner—and by "beginner" I don't necessarily mean children. There is no end of angling books written by experts *for* experts comprising a kind of top-brass fraternity in which the brethren write books exclusively for each other. After all, the technical experts in angling, those who make a study of every major and minor facet of the sport, comprise only the outer fringe of the millions of active anglers who may not know—or care to know—the structural differences between the male and female of Ephemerella Subvaria or who may go fishing whenever they can get the time instead of sitting around waiting for the charts to tell them the sun and moon are properly beamed up together. That is why I am glad to see *Fishing is Fun* by Arthur Carhart make its appearance (The Macmillan Company, 60 Fifth Ave., New York, N. Y.). Published on February 14, it's a real Valentine for the beginner from age 17 to 77, and the price is music to the ears—only $1.95. A compact column of 126 pages, illustrated with line drawings, it constitutes a course in basic fresh-water angling fundamentals, with major emphasis on the importance of being able to "read" a stream or lake for the purpose of locating fish and their feeding grounds. Simple, concise, meaty, with a backbone of common-sense plea for sportsmanship and conservation, *Fishing is Fun* fills a need and, I predict, will sell like hotcakes.

North American Fresh Water Sport Fish by Lou S. Caine (A. S. Barnes and Co., 101 Fifth Ave., New York, N. Y.—$5.00) is quite a different type of book which, also, in its own way fills a need. It is an encyclopedia of fresh water fish, containing description, lore, habits, and essential angling and scientific data about every common fresh water game fish on the North American continent. Eight color plates and scores of black-and-white line drawings, illustrating every specie of fish with the main families in color, add beauty and utility to the volume. An interesting feature is that, with each fish and with the generally accepted name for the fish, the nicknames and regional names that apply to it in various parts of the country are also listed. The definitive work in this field, from the scientific standpoint, is of course Francesca La Monte's *North American Game Fishes*, but because Lou Caine's book is written entirely from the angler's point of view it is perhaps more useful for the average fisherman. Indexed, and with Foreword by J. Hammond Brown, President of the Outdoor Writers Association.

Kill Less—Catch More

THE WORLD SERIES OF INLAND FISHING

By JOHN S. OGDEN

Reading left to right: Ralph Rineholt, president of the York Chapter of the Izaak Walton League; Ralph McGuigan, chairman of the York County Federation of Sportsmen's Clubs and Delmar Murphy, secretary Red Lion Fish and Game Association stock brook trout in Tom's Run in southern York County.

Robert Hughes, a member of the North York Fish and Game Association, and Harold Poff, Red Lion, load fish into a jeep owned by Alvin Rost, Red Lion. The jeep came in handy to negotiate some of the back roads made muddy by spring thaws.

Thousands of anglers will take the icy streams of Pennsylvania April 15 for the opening of trout se son. The "world series" of inland fis ing will have begun, the smartest a most luscious of all the finny tri against the best equipped and mo resourceful of inland fishermen.

If you've never tried trout fishin you can be excused for doubting th it will be a fair and square battle. would naturally seem that fish rais in a hatchery would be "sitting duck for a race that knows how to bui an atomic bomb.

But if you are thinking along tho lines, forget it. You've under es mated "Mr. Salvelinus," as he known ichthyologically. Ask any tro fisherman you catch eating bak beans on April 15. The trout fishe men will take a lot of fish out of t streams for the first few days but the will be more in the streams than the frying pan by the time the fishe men's patience wears out.

Let's take a look at the two co testants.

The trout fisherman is no ordina hook-line-and-sinker man. He is experienced, studious, patient, sourceful, skilled and rugged outdoo man with full respect for the quar he seeks. He probably served a lo apprenticeship before he landed first trout. You may trust him to ha read most of what there is to re about the habits of trout and to ha listened to the experiences of oth trout fishermen.

He has inspected his equipment a made all necessary repairs and ad tions. He has checked his hip bo for leaks. His wool socks, other war clothing and "lucky" hat have be laid out. His tackle box has been p in order, his reel oiled, his delicatel balanced line has been treated and long flexible rod inspected.

If he's still somewhat of a novice has practiced whipping his line arou the backyard for accuracy.

The Challenger

He'll need all his knowledge a skill, for the trout is such a gre sportsman himself that some angle almost regard him as human. The are fishermen who scoff at others their number who tempt the tro with angleworms. Unless they can lu the trout with an artificial fly usual made with their own hands, they cou themselves unfair.

There are still others who so admi

Sportsmen from eight county organizations gather to aid in stocking York county streams th trout from the state hatchery. A messenger from the state's Huntsdale hatchery is dipping h from the tank truck.

Congratulations!

The PENNSYLVANIA ANGLER pauses to salute a pleasant contemporary, *"The Lycoming County Sportsman"* published by the Consolidated Sportsmen of Lycoming County. This attractive and breezy sportsman's cover is edited by Richard F. (Dick) Williamson, a former editor of the PENNSYLVANIA ANGLER and to say that it serves a well-balanced purpose is but to put it mildly. Brimful of newsy items as usual it is anxiously awaited by the members of the powerful northern tier organization.

With headquarters in Williamsport the sportsman's group is headed up by Ralph R. Holtzman of South Williamsport who was recently elected to his second term.

J. A. B.

Izaak Walton Sportsmen's Show at Lebanon

The Lebanon County Chapter of the Izaak Walton League of America has scheduled their Third Annual Sportsmen's Show which will be conducted in the Eagle's Auditorium in Lebanon on March 15, 16, 17 and 18th. THE ANGLER has been advised and we hasten to inform our readers that this show is being built around a program which will certainly hold a charm to the hearts of our grand fraternity of outdoorsmen.

h fighting qualities of the trout that hy return them to the streams, being tent to fish for nothing but the love the sport.

'rout are smart, have a keen sense flanger, are difficult to lure and once oked will fight for their freedom vh all the fury of a demon. The atle is only half over when the bed hook has bit into flesh. Given h least opportunity through absence fishing skill the trout will shake the ok. And, many a trout has won its redom between the time the angler dodges the hook and puts it into h creel.

Some anglers suspect that trout can ar, though the scientists disagree. Bt trout are sharp to detect any unual disturbance. Trout fishermen ually fish up stream because any turbance would be carried down to h fish waiting in swift water for their d to come by. Bait moving the ong way seldom fools them.

n the early spring they are usually nd in deep pools where they lie ar the bottom scanning the upper ters for food. Since spring thaws e constantly depositing foreign mat- into the streams and causing other turbances, down stream fishing with ie bait is approved by some at this ie.

So make no mistake. The man who eds upon a savory pan of trout has ned his morsels and the trout still the stream have earned their freedm. Trout fishing is a battle on even ms with only the weaker on either e going down in defeat.

PENNSYLVANIA FISH LAW VIOLATIONS

Cases Settled During the Month of January 1950

BEAVER COUNTY

Jankovic, Stanley, 1321 Walnut St., Ambridge, Pa. Fishing in nursery waters $100.00

BEDFORD COUNTY

Cessna, Don, R. F. D. 3, Bedford, Pa. Fishing without a license 25.00

Cessna, Don, R. F. D. 3, Bedford, Pa. Illegal device 20.00

Cessna, Don, R. F. D. 3, Bedford, Pa. Five trout in closed season 50.00

May, John W., R. F. D. 1, Manns Choice, Pa. One trout in closed season 10.00

Mowry, James C., Schellsburg, Pa. One trout in closed season 10.00

Scally, William P., R. F. D. 1, Hopewell, Pa. Fishing without a license 25.00

BUCKS COUNTY

Chittick, John K., Danboro, Pa. Fishing without a license 25.00

Shelly, J. Arthur, Fountainville, Pa. Fishing without a license 25.00

FULTON COUNTY

Simpson, Wm. W., Big Cove Tannery, Pa. Illegal device 20.00

INDIANA COUNTY

Bozigar, Edward, Dixonville, Pa. Fishing without a license 25.00

Leib, Earl J., 524 Chestnut St., Indiana, Pa. Violation of the rules and regulations of the Penna. Fish Commission 20.00

Leib, Earl J., 524 Chestnut St., Indiana, Pa. One undersized trout .. 10.00

Leib, Theodore E., 524 Chestnut St., Indiana, Pa. Violation of the rules and regulations of the Penna. Fish Commission 20.00

Leib, Theodore E., 524 Chestnut St., One undersized trout 10.00

LUZERNE COUNTY

Hohol, Michael A., 77 N. Empire St., Wilkes-Barre, Pa. Interference with officer 100.00

Polney, Stanley, 119 N. Empire St., Wilkes-Barre, Pa. Interference with officer 100.00

McKEAN COUNTY

Carpenter, Walter M., R. D. 1, Port Allegheny, Pa. Three undersized trout 30.00

SCHUYLKILL COUNTY

Brozkoski, Teddy, 337 W. New York St., Shenandoah, Pa. Fishing without a license 25.00

Dalto, William E., 307 Spruce St., Tamaqua, Pa. Exceeding creel limit 20.00

Edmondson, Elmer, 408½ W. Oak St., Shenandoah, Pa. Fishing without a license 25.00

WAYNE COUNTY

Daniels, Gerald, Lake Ariel, Pa. Exceeding creel limit 20.00

WESTMORELAND COUNTY

Sinclair, James, R. F. D., Irwin, Pa. Drawing of dam without permit .. 100.00

OUT OF STATE

Haselberger, Emil, R. F. D. 1, Cumberland, Md. Illegal device 20.00

Footnotes on Pennsylvania Angling

By WILLIAM R. OLIVER

That time of year long anticipated and desired by many men, the trout season, again is nearing. "What angler's heart does not beat more quickly at the joyous announcement of opening day?" To the devoted fisherman, be he rich or poor, learned or ignorant, April 15 is sacred and demands respect and celebration second only to Christmas. To him it marks the beginning of that halcyon season of pure delight when the miseries of winter and the woes of a threatened world disappear in the effort to satisfy a trout. It is difficult to explain to the uninitiated how the triumphant deception of a fish can bring such joy and such satisfaction, so that men of all ages are rejuvenated and given courage to assail again the problems of living.

Born Too Late?

Our fathers, in times past, looked forward not less eagerly but doubtless with more confidence to the "season." Little could they foresee how an abundant population would overcrowd the banks of our Pennsylvania trout streams since the ancient call must be answered even by those who have been reared in our congested cities. Those tens of thousands who belabor the few unpolluted streams that remain feel, like Miniver Cheevy, that they have been "born too late." That they are not mistaken is confirmed by the records.

John James Audubon, in his *Ornithological Biography,* attested to the abundance of fish and expressed in terms that cannot be misunderstood his disapproval of those who angle with little return. He wrote: "Never could I hold a line for many minutes unless I had not a nibble but a positive bite, and I could throw the fish at once over my head on the ground. No, no. If I fish for trout I must soon give it up or catch, as I have done in Pennsylvania's Lehigh or the streams of Maine, 50 or more in a couple of hours!"

Fish once were so plentiful that, when not only pleasure but sustenance and the continuation of life itself were at stake, William Penn could write of the Indians, contrasting their lives with those of the agricultural settlers: "We sweat and toil to live; their pleasure feeds them; I mean their hunting, fishing, and fowling."

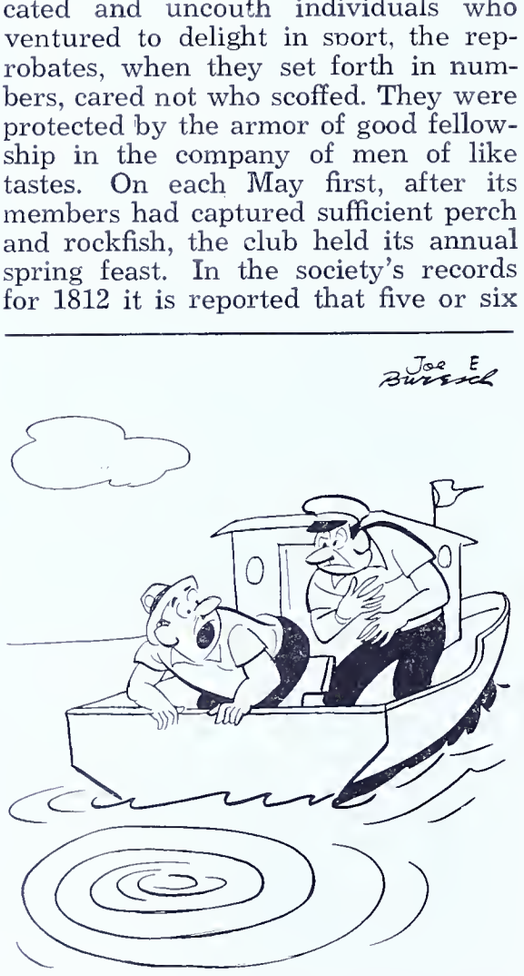
John Smith earlier had written of the Indians' pursuit of game and fish: "They esteeme it a pleasure and are very proud to be expert therein."

After observing the reactions of present day guides—Indian, French, and English—and in spite of the above statements, one must conclude that when Indian or colonist set forth in our forests and on our waters in the seventeenth century, sport was, at best, a minor motive. It was the need for food that forced him to venture into the perilous woods. What is more, pleasure for its own sake was still frowned upon, and in this attitude the good Calvinists of Pennsylvania persisted long after New England's Puritan heart had weakened.

Enjoying Good Company

By the eighteenth century, with increased safety and leisure, the sporting man came into his own. It was in eastern Pennsylvania, which had been leavened by the more humanistic European strains, that the first American sporting organization was established. As men became less critical of each other's sins, they came to like the more each other's company. For social enjoyment the Schuylkill Fishing Company was founded in Philadelphia in 1732.

If certain reactionaries in the community still wished to criticize uneducated and uncouth individuals who ventured to delight in sport, the reprobates, when they set forth in numbers, cared not who scoffed. They were protected by the armor of good fellowship in the company of men of like tastes. On each May first, after its members had captured sufficient perch and rockfish, the club held its annual spring feast. In the society's records for 1812 it is reported that five or six men in a few hours could catch th to seventy dozen "choice fish" wh then were artistically cooked served in festive style. Many were famous guests of the Company "Colony" including Presidents, Gov nors, and Generals. General Lafaye was entertained in 1825 and in 1 General Pershing was made an hor ary member.



"He cast out and then disappeared! I suppose the sinker was too heavy."

Fish Fry a Favorite

The society now is called Schuylkill Fishing Company of State in Schuylkill, the Colony i having become distasteful follow the success of the Revolution. It the honor of being the oldest so club with a continuous existence the English-speaking—if not ind the entire—world. Other famous cial fishing clubs of Philadelphia w the Fort St. David's, the Regale, the Tammany Pea Shore Fishing Co panies. The success of the fish spread until it became one of favorite enjoyments of America, in the South particularly the mor ony of life was alleviated by periodical assembling of neighbors fish, to fry the fish, to feast and dan

Pittsburgh Angling Club

There was founded in 1830 a pis torial club in Cincinnati, the object the Association being "to blend so amusement with healthy recreatio The following year, at its first an versary dinner, toasts were drunk the memory of "honest Izaak Walto Charles Cotton, and Wynkyn Worde of the fourteenth century, the Schuylkill Fishing Club, and "The Members of the Pittsburgh A ling Club—May their tackle and th luck never fail them." The records the Cincinnati club, printed by *Cincinnati Chronicle* in 1831, furt state that the Secretary had been quested to propose "the propriety conferring the distinction of honor membership on the presidents of Philadelphia and the Pittsburgh A ling Clubs by way of opening a c respondence and friendly intercou with them." The following year presidents of the two clubs togetl with Daniel Webster were so elect

Bass and Salmon

Charles E. Goodspeed, in his eff to develop further information c cerning the Pittsburgh club, was successful. In *Angling in America* does report an article which appea in *The Spirit of the Times* for May 1843 mentioning a Pittsburgh Fish Club then existing, but it may h been a new organization. The arti referred to reads in part as follows

"Three members of our Pittsbu Walton Club were fishing . . . in 1

r bass and salmon . . . Old Isaak's sciples in this quarter use cane or ed of Mississippi for rods . . . We e the reel of course . . . Immense mbers of bass are taken by our alton Club every Fall . . . At Richdson's fishing tackle store in this city saw a large number of trophies such Pike, Salmon, and Bass heads of a rge size.—W. M. D." In these initials, icidentally, Mrs. Lois Mulkearn of e Darlington Library at the Unirsity of Pittsburgh recognizes the thor as W. M. Darlington, sportsman d collector.

Goodspeed also quotes from the histry of Pittsburgh written in 1851 by eville B. Craig: "The fish of the legheny are harder and firmer than ose of the Monongahela or Ohio, ving, as is supposed, to the greater ldness and purity of the water. The fh in general of these rivers are good.

"It is a high amusement to those o are fond of fishing, to angle in ose waters, more especially at the ne of a gentle flood . . . I have sen a canoe half loaded in a morning some of those most expert in the nployment, but you will see in a ring evening the banks of the rivers led with men fishing at intervals om one another. This with the reams gently gliding, the woods, at a distance, green, and the shadows ngthening toward the town, forms a lightful scene. I have been sometnes highly pleased in going with a lect party, in a small barge, up or own the rivers, and landing at a cool ring to enjoy the verdant turf amidst e shady bowers of ash-wood, surgarree or oak, planted by the hand of ature, not art."

One hundred years have passed nce Mr. Craig wrote, and while fishig gear has improved, alas, the local fh long since have departed for purer reams. One must leave Pittsburgh fr behind if he wishes—

he silver-scarlet fish that softly swim
ithin the sweet brook's crystal
atery stream.

Revolutionary Ideas

In the development of fishing equipent and angling technique, Pennsylnia has made significant contributns. Genio C. Scott, whose book *shing in American Waters* was publhed in 1869, wrote that twelve-foot der rods were popular and On Pine eek, in Pennsylvania, anglers who fh for a livelihood use such a rod, and fh with only one clumsily-tied fly. ey wade the streams which is a od plan to avoid meeting rattlesakes, and to a string tied over the t shoulder and under the left arm ey attach their fish and tow them ng as they angle down the stream. n some days they take from thirty to fifty pounds of trout. On Trout Run, a tributary to Lycoming Creek, the best native anglers used a rod of two hickory joints, lashed together, with a tip of whalebone lashed to the upper section and brought out "large prismatic beauties at nearly every cast with a single fly of domestic make."

These fishermen had not heard of the revolutionary new rod that had been invented in 1845 by Samuel Phillipe, a violin-maker of Easton. Dissatisfied with the action and weight of the rods of his time, he succeeded in gluing together four and six tapered strips of bamboo which, three years later he offered for sale. Whether Phillipe was the first to make the experiment or not is open to question, but due credit must be given him for perfecting the rod after which nearly all modern rods are patterned.

Another Pennsylvania contribution of significance was made by Thaddeus Norris who spent his life in Philadelphia and who, in 1864, published *The American Angler's Book: Embracing the Natural History of Sporting Fish and the Art of Taking Them.* Downstream with the wet or submerged fly had, until Norris time, been the approved method of fishing the trout brooks of America. After firsthand experience coupled with careful observation, Norris pointed out the advantage of fishing upstream, in the English manner. Because of rather heated arguments with some Canadian and English critics he added that it generally was unwise for Americans to follow the advice of English writers. Perhaps he sagely was thinking of the sales of his own book, which did go into several editions. Norris' second and even greater contribution to American angling practice was his recommendation that under certain conditions the dry or floating fly rather than the wet or sunken fly should be used. He wrote, "If it could be accomplished, the great desideratum would be to keep the line wet and the flies dry."

"Maybe it's that merit badge he earned on angling that does it!"

Theodore Gordon

Pittsburgh itself in 1854 was the birthplace of the lately celebrated Theodore Gordon, possibly the greatest American fly fisherman of his time. For him the very successful fly, the Quill Gordon, was named. Gordon, although he wrote no book, carried on extensive correspondence with F. M. Halford, England's renowned authority on fly fishing. The correspondence was of such significance that in 1947 an exhaustive biography was published entitled *The Life and Letters of Theodore Gordon.* In his honor, on the approaching centenary of his birth, anglers of this district are planning a dinner and celebration. If any descendants or friends of his family can furnish us with further information, we hope they will communicate with Fish Commissioner Bernard S. Horne.

A Procurer of Contentedness

Pennsylvania today may be proud of the contributions of her sons to present-day fishing knowledge and angling books. Few dispute the validity of the water-temperature limits to fly fishing discovered by Kenneth A. Reid, formerly of Connellsville. Charles Reitell wrote his excellent *Let's Go Fishing* while he was teaching at the University of Pittsburgh. *The Autobiography of a Fisherman* by Frank Parker Day, once of the faculty of the Carnegie Institute of Technology, is in the finest tradition of angling literature. The year 1940 saw published a book full of the whimsey and fantasy of fishing in Edwin L. Peterson's *No Life So Happy.* Mr. Peterson is professor of English at the University of Pittsburgh.

There no doubt are some who, patiently having read the preceding paragraphs, by now are wondering whether fishing deserves such attention in books. These then may ponder the remarks of Sir Henry Wotton's contemporary, on the death of their mutual friend, Dr. Alexander Nowell, dean of St. Paul's and the author of the present catechism. Dr. Nowell was an outstanding angler, and of his pastime Wotton wrote:

" 'Twas an employment for his idle time, which was not then idly spent, for Angling was, after tedious study, a rest to his mind, a cheerer of his spirits, a diverter of sadness, a calmer of unquiet thoughs, a moderator of passion, a procurer of contentedness."

Reprint from—*Carnegie Magazine*

TROUT HAVE HABITS

By W. BOYD TOBIAS

"I'll wager I'll take a trout out of that riffle," Doc remarked to me as I paused on my way past him while we were fishing a mountain stream in the early spring of a few years ago.

I didn't take him up on his bet, for Doc was quite adept at catching trout and not one to make a bet unless he was quite certain he would win it. Sure enough, he yanked a ten-inch brookie out of that bit of swift water less than ten seconds after he made his offer of a wager.

"Have you ever noticed," he inquired as I watched him take the hook out of the trout's mouth and place the fish in his basket, "how you'll catch trout year after year from the same pools and riffles?" I had never given the matter much thought but it came to me then that Doc was right. I, too, had caught trout time after time from the same places in the different streams I fished until I unconsciously anticipated catching many of the fish I hooked.

We concluded these particular pools and riffles were ones in which the different things trout feed upon are most numerous, causing the trout to gather here when hungry. Certainly, in many cases, the swirl of the current is such it is logical to conclude that bugs and other floating food would be carried to these particular parts of the streams.

"Just a few days ago I took all the trout I wanted out of one stretch of water not more than 20 feet in length," Doc continued. "The unusual thing about it was that I saw the rainbows lying there, heads upstream, awaiting food.

"The trout were in the opposite side of the stream from where I stood and the water was quite deep a few feet from the embankment on my side. Perhaps this was in my favor for I had to cast quite a distance to reach the fish and was so far away they couldn't see me.

"When I was down in the water off the rather high embankment I couldn't see the trout but I knew exactly where they were and made my cast accordingly. My minnow swam down to the place where the trout were lying in wait for food and instantly I had a strike. I eased that particular trout out of the stream very carefully and quietly and was pleased to find it was a good-sized rainbow.

"In the next 15 minutes I took seven additional rainbows from that pool. Then the trout stopped feeding. I climbed back to the embankment and peered across stream to learn there still were 15 or 20 rainbows in the stretch of water where I had first spotted the fish. Further, they still were swimming quietly, obviously not in the least disturbed by the fact I had caught eight of their number.

"I had all the trout I wanted, but it was fun catching them so I tried other bait and lures in an effort to entice the rainbows. Apparently it was past their feeding time, for I failed to get a single strike in the half hour I continued to fish that pool."

Doc and I had smoked cigarets while he was telling me of his fishing experience. Although the foliage at the stream's edge was green and there was no danger of starting a forest fire, we unconsciously stamped out the fire of our cigaret butts before we moved on.

Just below the riffle where Doc caught his trout the water swirled to the north bank. Here it had gouged out a hole perhaps two feet deep and exposed the roots of a tree growing at the water's edge. I recalled I had caught a nice brown trout in this very place the previous spring so I called to Doc and told him I was about to test his theory.

I was fishing a minnow which was carried by the current to a point just above the submerged tree roots when —Bang!—I had a strike.

"It's true!" I shouted to Doc, and he paused in his cast to watch me net that 11-inch brown trout.

I decided I'd test Doc's theory during the remainder of the day's fishing. Also, it added zest to the angling, for I would be concentrating on catching fish at various places along the strea and would be keeping a mental cou of the trout I hooked.

The "Big Hole" always gives me a thrill of anticipation.

Not more than 200 yards do stream from where I caught the bro trout was a long hole just below a be in the stream. The very first time had fished this particular stream caught trout in this place. I reme bered it because the laurel growth both sides of the stream was so de one simply could not force his w through it with a fishing rod in hand and a creel hanging from shoulder. The only way a fisherm could get to the hole was by wadi the stream either up or down.

It was at the lower end of the h where I had had strikes on previo visits to the isolated creek. Here t stretch of deep water was widest a only eight or ten feet below was sw water coursing over rocks. My m now had floated into this particu part of the hole when the stri came.

I failed to hook this fish and und stood why when I retrieved my li and discovered the minnow had be bitten cleanly in two. Then I recall the advice of Charlie, one of the m skillful and successful anglers I ev met. He had told me that when t happened to him he made his seco cast with the mutilated bait still the hook and more often than not t trout would come back a second ti to get the remainder of the minnow

Sure enough, this happened and had trout No. 2 in pursuing Do theory. But this time it was an eig inch brook trout I caught. I h hooked him only through the lip a he wasn't hurt much, so I slipped hand under him in the water af tucking my rod under my left a reached into the water with my ri hand and carefully worked the ho out of his mouth. He made one qu rush and was lost to view in the de water from which he had come.

I had no results in the next s where I had previously caught tro This was a place where the wa swirled under tree branches wh overhung the stream for half its wid It was a difficult place to work on bait where it was to go, so I may ha been seen by fish lying here as I tr to reach them. Anyhow I didn't ge nibble here.

It was a hundred yards or more the next place where I had taken before. Here the stream made an most right angle turn to meander e instead of south. And here, as is of the case, the water over the years worn a deep hole. I had a fresh, liv red fin minnow on my hook whe

It is in such a place as this that trout await their food.

"Itchin for the Open"

It's early, but I have a "yen"
  To visit open spaces;
To kick the leaves beneath my feet,
  And roam through backwood places.

It seemed to start on New Years day,
  And I scarcely felt a thing,
But still, there's something queer inside,
  That makes me long for Spring.

I love to search the hidden paths
  Where redskin warriors trod;
To talk to Nature, drink in sun,
  And communicate with God.

For man has got himself engrossed,
  With earning "what it takes;"
He rushes here and rushes there,
  And he wont put on the brakes.

Now, as for me, I'll be content
  To make a little less,
And get me more of Nature's lore,
  And more of happiness.

—Seeveejay

proached this likely-looking fishing pt.

he first time the red fin swam hugh this hole at the end of my head-thin leader he was ignored opletely by the trout which I felt eain were lying there looking for od. I retrieved the bait and set it cn carefully in the swift water at h head of the hole. This time I had ı a few seconds to wait until I felt ıg on the line. I set the hook and vs rewarded with a wild surge as the s felt the sting of the barb.

his trout felt like a good-sized one r, further, he had plenty of fight. layed with him perhaps a minute ore I brought him in to the net and ivered he was a beautifully-colored ok trout a good ten inches long. ls one I placed in the cellophane bag vch I carry in my creel and thus a a third example of Doc's contenin that trout can be caught year fr year in the same places.

y this time I was getting the biggest id of a kick out of the game I was lying. But I was also feeling the wings of hunger so I leaned back cnfortably against a white birch at h water's edge and took from my cket a chocolate almond bar. I nnched at this until it was devoured rl then had a satisfying smoke before eewing the business of fishing.

had reached a part of the stream ht was exceedingly difficult to fish. twas narrow here, bushes and small res overhung most of the water, and ımerged branches and small tree rnks littered the bottom.

But I had caught fish here before rl I felt I could catch others in the ne place. I took two trout out of this tetch of water, one of them a "brookie" barely six inches long. But Doc's theory was proven.

Now I approached the long, deep hole which always gives me a thrill of anticipation. Here one can always see nice trout lying virtually motionless on the bottom if he approaches the place carefully from the side where his shadow falls behind him.

I always fish this big hole with as much line as I can handle for it is quite open here and every care must be taken so the trout will not see you and become too alarmed to feed.

I continued to depend on my minnow bait as I prepared to go into action in the "big hole." Below me at the other end of the fishing place was another angler whipping the stream with a fly, although it was so early in the spring there was virtually no bug life whatever visible on or above the water.

Here I fished perhaps ten minutes before a reward came, but it was worth while when it came, for I added a 13-inch brown trout to the others I had in my creel. I had to bend him to a slight extent to get him into the cellophane bag.

Believe it or not, on ten different periods of that day and in ten different places in the stream where I had previously caught one or more trout I landed legal-size fish. This I related to Doc when we got together in the late afternoon to back our car out of its swampy parking place preparatory to setting off on the 30-mile drive for home.

"I knew you'd find my theory held up," said Doc, obviously not in the least surprised by my experience of the day. "I've had the experience of catching trout time after time from the same holes and riffles so I long ago knew it to be a fact."

Excerpts of the Minutes of the Meeting of the Pennsylvania Fish Commission Held Jan. 9, 1950

APPOINTMENT OF REGULAR WARDEN

Charles N. LeDane was appointed as the regular fish warden for Elk and McKean Counties. Mr. LeDane has been an employee of the Fish Commission for many years and was promoted to the position of Regular Fish Warden.

INCREASE FOR HATCHERY EMPLOYEES

A meritorious increase was granted to several employees of the various hatcheries. This increase also applies to those deserving recognition who are on the hourly payrolls at the hatcheries.

COMMERCIAL HATCHERY LICENSES

The Commission adopted a new policy covering the issuing of commercial hatchery licenses for the year 1950.

RULES AND REGULATIONS GOVERNING COMMERCIAL FISHING OUT OF THE PORT OF ERIE

The rules and regulations covering fishing out of the Port of Erie except for two important new rules remains the same for 1950 as during the past year. The new rules are as follows:

1. The use of small-mesh nylon netting in the waters of Lake Erie under the control of the State of Pennsylvania is hereby prohibited, and it shall be unlawful for anyone engaged in commercial fishing in Pennsylvania to have in the waters of Lake Erie 4¾ inch mesh nylon netting which shall exceed 15,000 yards at any one time (that the aforesaid yardage be strung in any fractional part of the permitted 15,000 yards). It is further required that said 15,000 yards, or any fractional part thereof, be lifted at least once in every twenty-four hours between the dates of June 1 and October 15, inclusive, except in extenuating circumstances where breakdown or severe weather prohibits craft from carrying on their daily assignments.
2. The licensee of any licensed boat shall furnish to the Superintendent of the Erie Fish Hatchery on or before the 15th of the month following, statement showing the daily report of catch out of the Port of Erie. Forms to be furnished by the Pennsylvania Fish Commission. This information will be considered confidential insofar as the Fish Commission is concerned and will only be used in submitting totals to the authorized agent of the United States Fish and Wildlife Service compiling the statistics covering catches out of the various ports on the Great Lakes.

PENNSYLVANIA CONSERVATION LABORATORY FOR TEACHERS

The Commission contributed $250 towards the support of the Conservation Education Laboratory for Teachers held at the Pennsylvania State College.

POLICY ADOPTED FOR FUTURE STOCKING

It was agreed that the policy of the Commission in the future would be that any stream considered for stock-

ing must be three (3) miles or m in length before placing on the proved list with at least three miles of open water before any st ing would be done, and that no st ing would be done within one- (½) mile of any private or po waters.

PURCHASE OF SPRING CRE WARREN COUNTY

The Commission has entered negotiations for two miles of wha known as Spring Creek in Wa County. This is a well-known t stream and was improved by the W ren County Sportsmen.

PURCHASE OF TRUCKS

An order was placed for twenty- new trucks to take care of repl ments.

Calendars, Thermometers and Barometers, or— It Doesn't Make Sense

(*From page 7*)

trout season I chanced to be walking along the banks of Hickory Creek here in Lawrence County. Upon approaching a beautiful pool below a cascade, I saw what appeared like dozens of trout confusedly scurrying helter-skelter for cover.

"Boy, oh boy, what a bunch of survivors," I said to myself as I threw myself prone on the cool greensward.

In a few minutes the fish had regained their composure and began drifting back to the deepest part of the pool from where I had frightened them. I could scarcely contain myself as I gazed down on some really fine specimens of both rainbow and brown trout. The upshot of the incident was that I had to return home and get my fishing outfit.

When I approached the pool an hour later, ready and anxious to tangle with those fish, my tactics, as you can well imagine, were different. When still some eight or ten feet from its edge I stopped and prepared to cast. In succession I floated three of my best killers over every square foot of that pool without arousing the slightest interest.

Indeed, the situation seemed so incredible as to prompt me to risk a look. To do this without frightening the fish I climbed a nearby tree to an appropriate height and took a gander. The fish were there, but conditions were such as to discourage all activity on their part. I decided to wait for a change in the weather.

Just as I had anticipated, shortly before dusk the air cooled off and a wispy mist began almost at onc curl from the water's surface. though at a given signal some of fish began rising to the few nat insects dimpling the pool's surfac

I went into action with a mi gray gnat, a fly most nearly resemb the few naturals flying about. artificial called for my very ligh leader. As the fly alighted on surface there was a sudden but tug and I was fast to a fighting I perforce missed its acrobatics cause I didn't dare expose my However, I did almost at once m for the pool's tail where I worked fish downstream to my waiting without unduly disturbing the o denizens of the pool. This strata netted me three browns and a rainbow. There was more satis tion in knowing that I could ou my quarry than in possessing it I called it an evening, and a very g one, too.

Clever anglers contrive cunning vices with the hope that they'll c more fish. Of the tens of thousa of such contrivances that have and are being produced, not one turned out to be the ultimate getter. And that's the way it sh be.

Calenders, thermometers and bar eters are probably the most w spread and popular adjuncts desig to aid the fisherman. But they are not surefire and that's the wa should be.

However, when new fishing ca dars, charts, tables and what not, b on barometric pressure, phases of moon, hot and cold running water overhead valves are brought ou am among the first to run to the l dealer to purchase my share of th You see, it's fun even if it do seem to make sense.

ENNSYLVANIA REPTILES & AMPHIBIANS

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 12 . . . Frogs

ULLFROG (Rana catesbeiana) . . . Maximum length 10 inches; easily d tified by its large size and distinctive call of "jug-a-rum," a deep a note of the male; distinguished from the green frog by the lack of dge running from each eye toward the hind leg, which is present n he other species; later singer than most other frogs, its choruses eing underway in late April or early May; green or greenish brown n olor, frequently mottled with darker spots; completely aquatic in aitat.

BULLFROG TADPOLE . . . The tadpole shown here (beside a clothes pin for comparison) is a first-year youngster, having a tail and no legs; Bullfrogs lay up to 20,000 eggs in floating sheets about two feet in diameter; hatching occurs in about a week, but tadpoles do not transform for two years; bullfrog tadpoles, which often grow amazingly large (six or seven inches), spend the first winter hibernating in the "pollywog" stage; thus, tadpoles may be found any month in the year.

ALE AND FEMALE BULLFROGS . . . Bullfrog on the right is a n e; bullfrog on the left is a female; ear of male bullfrog (rounded r back of the eye) is larger than the eye; ear of the female is about h same size as the eye; throat of male bullfrogs may be yellow; r nally, the bullfrog may have occurred throughout Pennsylvania, but e nt records are of little value since considerable restocking has taken lle; over hunting has decimated the bullfrog's numbers in many o lities.

FROGS AS FOOD . . . Pennsylvania is one of few states that has passed laws protecting the bullfrog; the season for taking them is July 2 to October 31 (Sunday excepted); the daily limit is 15 and the season limit is 50; lights for catching frogs are prohibited; the bullfrog and the green frog are the only two local species used extensively for food; fried froglegs, pictured above, are a delicacy and command high prices in fashionable eating places.

REEN FROG (Rana clamitans) . . . Maximum length 4 inches; like h bullfrog, the green frog is a late singer, tuning up in late April; ile note is low-pitched and resembles a plucked bass viol or a dolin string; great variation in color of adult green frogs, but head n upper back is usually bright green; leopard and pickerel frogs have e contrast between spots and ground color than this species; r bably most abundant large frog in the state; recorded from 56 o ties.

ALBINO GREEN FROG TADPOLE . . . Albinism in frogs is not rare but is certainly uncommon; this tadpole was collected in Butler County; green frogs lay from 1,000 to 4,000 eggs in the water in surface sheets about one foot in diameter, from May to August; tadpoles transform in about one year; it is the only Pennsylvania species, besides the bullfrog, which spends the winter in a tadpole stage; identification of tadpoles is so difficult that few persons are able to name them.

CATCHING TROUT ON A CASTING ROD

By FRANK J. FLOSS

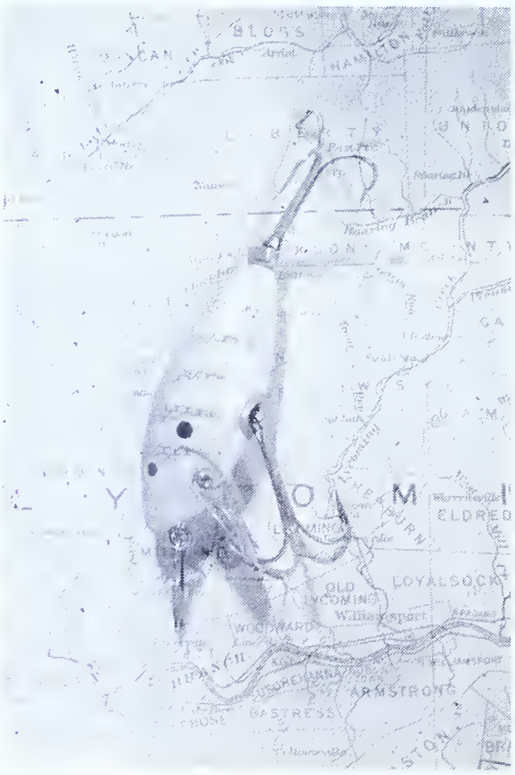
The supremacy of the fly rod on a trout stream is not questionable. For it by all means is the most popular choice of expert trout fishermen. But, it is not the only rod that can be used to take trout. The casting rod in the hands of a thinking fisherman will take its share of trout too. Regardless of what disadvantages the so called fly rod purist claims against the casting rod. Many even consider fishing for trout with a casting rod beneath their dignity.

By the same token many fishermen who use only the casting rod the year round, scorn what they call feather slingers or fly rods, and want no part of any fishing that requires gentle fingers and dainty lures. Thus the fly rod user looks with disdain on the casting rod man, and the casting rod man looks with disgust on the fly rod man. Which to me is a lot of nonsense, for trout can be caught on either kind of a rod.

If you have hesitated about going trout fishing with your casting rod, because you feel that your casting rod will look out of place on a trout stream forget it. It isn't the looks that matters, its ability to land trout is all that you should worry about. Which in this case is not to be questioned. Because the casting rod can and is being used every season by fishermen to catch trout, by either using live bait or artificial lures. These fishermen take their share of big trout too, for those big lunkers who hide beneath the rocks in the deep waters of a trout pool, are partial to lures with plenty of action that wiggle past their noses. In this respect the casting rod is tops, for with its variety of sinking lures, the fisherman can by choosing the right lure, put it down deep where those shy old trout can see it, regardless of how deep or how swift the water.

In lake fishing trolling for big trout with a casting rod is an old but still favorite way of taking big trout. However, most trout streams are too small for that kind of fishing, and the fisherman with a casting rod must content himself with fishing from the stream's bank or while wading its waters. For this reason the stream fisherman must learn to fish quite differently than the man on the lake. Why? Because in stream fishing the trout fisherman really plays a game of hide and seek, for he must seek out the hiding places of the trout and while doing it hide his movements so the trout will not see him. If a trout sees a fisherman moving on the bank or in the stream it immediately heads like a streak of lightning for the protection of a hole under the bank, a hollowed out place under a large rock, or some similar hiding place that can be anywhere in the stream. And nine times out of ten the scared trout cannot be coaxed from his hiding place with a top water or shallow water lure.

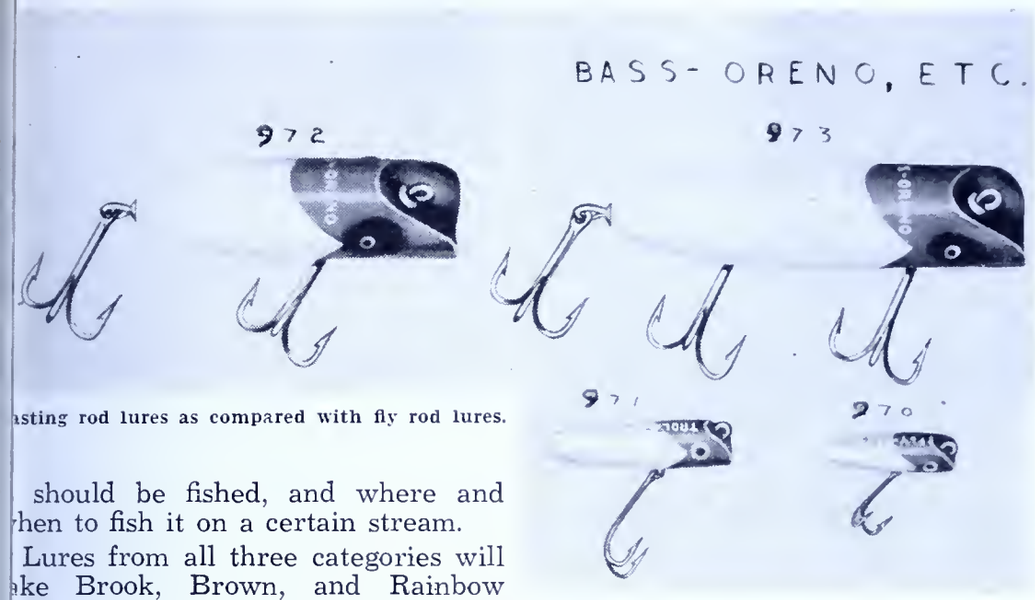
However, the man with a casting rod who has access to heavy deep diving lures can put them to good use here and instead of trying to make a trout come to a surface lure or a shallow swimming lure, reverse the procedure and send the lure down to the trout, which is timidly hiding. Remember, I said hiding, not coasting in the riffles waiting for food to be washing into its mouth. There's a big difference here in the positions of the two trout, and each position requires a different approach. For trout besides being temperamental, know the difference between the natural and the unnatural. They know what type of food floats down a riffle and what type of food that doesn't float down to them on the riffles. In other words following the pattern of naturals, each artificial lure is designed to be fished a certain way, in a certain place in a stream. Therefore, in this case be sure to use a deep diving lure, not a floating lure, or a near surface lure. For in order to coax a trout out of its hiding place, the lure must be fished a few feet from its nose. This can only be accomplished with a heavy deep diving lure with plent action, that can be fished deep eno and close enough to the trout fo to be fooled into thinking that it c dash out and catch its victim and turn to its hiding place without b seen.



Natural finish under-water lure.

Many old trout have been fooled this simple method, that takes littl the way of preparation. All you h to do on a trout stream, is keep y eyes open for a deep pool, gener found at the tail of a riffle, at a t in the stream, or beneath a drop or waterfalls. Then cast your lure and beyond the most likely look hiding place for a trout. Then wa few seconds to allow it to sink to desired depth and then start ree in slowly, for the deeper the water slower fish move about in it. But, too slowly, reel it just fast enough the lure to retain its action. Retri it right past the spot where you th a trout is sulking, which by the should be on the shady side of stream, if the sun is shining and on east side in the morning, and the w side in the afternoon, of a dull over day. Above all don't make one then give up, try all likely look spots by fishing those closest to first, then casting to next fart one. Try this method on every you come across and you'll be prised at the number of strikes yo get.

However, this is by no means only way a trout can be caught bait casting rod. But it would be possible to list in one article, or b for that matter, the hundreds methods and lures used to catch tr So for the sake of brevity we'll di the lures into three categories, explain how a lure from each of categories should be fished to c trout. We have floating lures, ur surface lures, and spinner type lu and a lure from anyone of these c gories will catch trout on a casting if fished right. The lure alone is guarantee that fish can be caught because it is known as a trout l For as I've pointed out before, effectiveness of any lure, or its ab to induce trout into striking at it pends on many factors. This inclu its color, action, season of the y water temperature, weather conditi and just where in a stream it is fis All these factors has much to d making a specific lure a popular consistent fish taker. Therefore fisherman must not only know w lure to use for trout, but how to im more or less action to it, what d

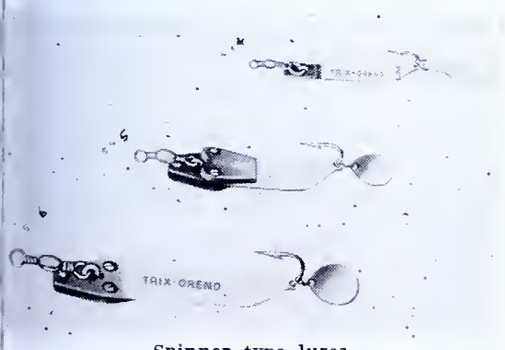


asting rod lures as compared with fly rod lures.

should be fished, and where and when to fish it on a certain stream.

Lures from all three categories will take Brook, Brown, and Rainbow Trout, however, each species of trout must be fished for a little differently. This we will go into later. Right now, here are some simple rules that are well worth remembering, for they apply to trout fishing in general. Fish bright colored lures on dark days and when the water is muddy. Fish natural colored lures on bright days and when the water is clear. And for best results when fishing with a casting rod use a transparent nylon line or one of those translucent plastic lines, which are practically invisible in the water. Then there will be no danger of scaring the trout with a whipping line. Also it is a good idea to carry several different finishes of the same lure in your kit. For it has been definitely established that trout are able to distinguish between colors. They are known to hit a lure of one color and finish, at one time of the day, and to ignore the same lure at another time, in reference for one of a different color.

Fish under-water lures such as spinners and diving plugs near where trout are hiding or resting. This can be anywhere in a stream depending on the mood of the trout. However, for best results fish them near sunken logs, overhanging banks, large underwater rocks, and around the edges of pools and riffles. But every spot on a stream does not have to be fished, for much time and effort can be saved if a fisherman notes where he gets his first strike. For instance, if the first trout strikes at the lure in the tail of a pool, don't bother to fish the heads of them, for if one trout is found feeding there, trout in the rest of the stream will be found feeding in the same places.



Spinner type lures.

Floating lures will take their share of trout too, and one of the most successful for taking Brook Trout is the crippled minnow that floats like a crippled minnow regardless of how slow or fast it is retrieved. However, for better than average results, this lure must be made duplicate the natural actions of a real crippled minnow. Like this, retrieve it slowly for a few feet, then let it rest for a second or so, then reel it a few feet closer. This procedure should be repeated all the way into the shore and if worked right the minnow will duplicate the natural actions of a crippled minnow that swims awhile, then grows weak and stops to rest.

Another floating bait rod lure that works well on Brown Trout, who like nothing better than a Striped Meadow Frog for dinner, is the floating frog lure. But this lure is a little hard to fish, because the caster must be able to put his casts where he wants them. This means that the caster must be accurate enough to bounce or jump this lure off a jutting rock, a fallen tree, brush, or the opposite bank, thus duplicating the natural jump of a frog into the water, and fool the trout into thinking that a live frog is out there trying to swim away from some natural enemy. The deception must be kept up even after the lure hits the water by making the frog appear to kick as it is retrieved, simply by twitching the rod tip slightly.

Spinner type lures work well in fast water therefore, if you want to catch Rainbow Trout who find no water too fast for them, and go for glitter and life in a lure, use a spinner. They are easy to fish, simply cast them out and retrieve them as in bass fishing, but vary the speed at which it is retrieved, by reeling slower or faster according to the swiftness of the water.

By following the above methods the casting rod trout fisherman should get his share of strikes. However, if they fail to raise a trout, hook a couple of plugs in tandom. This method often produces when all other methods fail. For plugs attached in this manner appear as though one is chasing the other and any trout lurking nearby will resent what appears to be another fish trying to steal his meal right from under his nose, and often will swim out and attack the intruder. For naturalness, hook a small plug ahead of a large plug by unscrewing the rear set of hooks on the lead plug and replace with an eyed screw of the same size, tie about a foot of transparent line to the eye, and tie the remaining end to the second plug. Fish this tandom combination just like any other plugs. This trick worked so well for us one season that some of the boys used to repeat this saying, "It's time to tandom. Then we'll land 'em," when strikes were few and far between.

Therefore, if you are a casting rod devotee do not hesitate about going trout fishing, for this is just a small sample of the number of ways to catch trout on a casting rod. And once you get a little experience under your belt fishing for trout you can even work out your own methods for catching them. The main thing to remember in trout fishing is not to become discouraged. If your first attempt at trout fishing fails to net a fish, console yourself with the fact that trout are temperamental and often times even the experienced fly rod fisherman comes home empty handed. Volumes have been written on how to catch trout, but only the man with the time and patience, to put what he reads into use will take trout. For trout never was, nor ever will be easy to catch, that's what makes this piscatorial pastime the favorite sport of thousands. It's not the reward in fish that makes trout fishermen, but the satisfaction gleaned from outsmarting them at their own game.

Northcentral Division Pennsylvania Federation of Sportsmen's Clubs Reorganize

At a meeting held on January 15, 1950 the following officers were elected: E. F. Brasseur, Chairman, DuBois, Pa., E. W. Tompkins, Vice Chairman, Emporium, Pa., H. E. DuBroux, Secretary, DuBois, Pa., and Ralph Thomas, Treasurer, Brookville, Pa.

The membership now embraces some 19,000 members representing 68 clubs and the Division is aiming to make it 20,000 during 1950.

"March Browns"

By A. G. SHIMMEL

The Boy in the Red Sweater has gone to bed. We have just finished an evening session at the fly tying table in preparation for open season which is still a good long month away. He is really becoming skillful at this the most delicate practice in the anglers art. I carry the product of our labors to the easy chair before the fire and examine each specimen carefully. The two dozen wets are our own pattern of the March Brown or perhaps it could be called a Gold ribbed Hare's Ear as it has some of the characertistics of each. The Boy in the Red Sweater is partial to this particular pattern as well he might be. The first trout that fell to his fly rod was hooked on one of these seducers. We were wading down Spring Creek, drifting them slow and deep in true early season fashion. He was leaning back against the current intent on keeping the fly's submerged and at the same time keeping one foot in contact with the stream bed. The trout struck and hooked himself. The first indication I had that the fight was on was to see the whipping rod as the Boy in the Red Sweater made his way with more haste than caution to the nearest bank. A minute or two later a fat brown lay gasping on the new grass of April. As I stood watching his shaking hands as he unhooked the fish and bedded it pridefully in his creel I knew that at last I had a fishing son and companion.

The fire is pleasant and its tongues reach upward with a fantastic display that is the magic for reflections of experience past and dreams of coming seasons. Tonight as we fashioned those delicate frauds the Boy in the Red Sweater sorted through our collection of fur and brought out a special cellophane envelope. From it he extracted several pieces of orange brown fur from the heads of cotton tails. This fur comes from the back of the head and neck directly under the ears. When made into a dubbing body banded with gold tinsel, winged with speckled brown turkey and hackled with dark red brown it has proven an excellent fly.

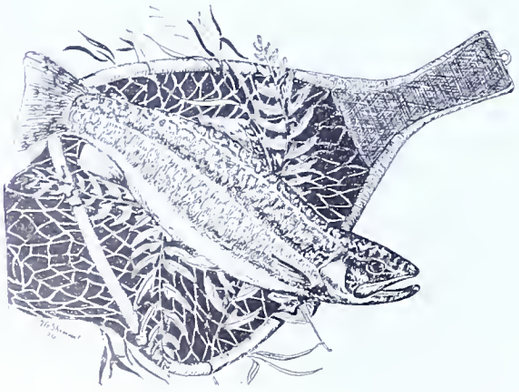
As he sorted the fur pieces we lived again the hunt of the preceding autumn. He seemed to know from which bunny each bit of fur was taken and it did not surprise me when he chose the fur from his first kill to tie his own personal collection of March Brown's.

Fritzy, a beagle in his second season snuffed industriously among the frost whitened brush of the farm wood lot. The surrounding fields glowed with the morning sun as we made our way carefully into the rim of trees. As I glanced at the Boy in the Red Sweater, walking carefully, his gun at ready, a brown streak bolted from a low clump of weeds almost at his feet and flashed toward the security of a laurel clump some fifty yards ahead. The gun came up smoothly, there was the pause of a delayed snap shot and then the crash of shot. The bunny flopped head over heels and lay still. Reloading, he hurried forward and hefted his first cottontail. I noticed the shinning eyes and hands that trembled just a bit as we performed the ritual of field dressing before stowing the game in his jacket pocket. Other game would come his way during his lifetime but the picture of his first bunny will be one of the clearest for both of us. Now a portion of that experience in the form of a fly body of fur was to be part of other outdoor pleasures.

My Lady in Plaid lays aside her magazine and comes over to my chair to view the results of our evening's labor. She has heard fishing talk and been exposed to the task of gathering bits of miscellany that has escaped from the fly tying table for many years. What pleases me most is that she cannot distinguish between the specimens tied by the Boy in the Red Sweater and myself. She knows a well tied fly and on occasion has constructed at least enough to appreciate the art. The boy has arrived as a practiced tyer.

Perhaps his interest is not altogether accidental I recall that some dozen years ago he sat strapped in his high-chair just out of reach of the tying table and cut his first teeth on a pair of hackle pliers while I constructed fly after fly that my friends and I could enjoy the sport of trouting in spite of economic depressions.

The fire burns low. Outside the warm March wind is making the dr of the winter icicles audible. A fe more days and the green of the law will begin to show between the soile remnant of snow banks. I watch th fire flicker and etched among th shadows are memory pictures of da astream.



One of the sharpest of these pi tures comes with the memory of merchant and fishing companic locally known to all the communit as "Uncle Billy." He has long sinc crossed the big mountain and eve now perhaps fishes the rivers wher there is open season always. He wa a small virtuous gentleman, who love the flowing streams and spent ever possible minute he could spare fro business at fishing. He would fis for hours in one place, dangling line baited with a worm at the bo tom and a battered March Brown fc a dropper. When we fished together could work the stream for hours an find him in the spot where he ha begun operations.

I came up the river path throug the mists and drizzle of a late Sep tember afternoon to find him stanc ing beside the shallows in high boot black raincoat and battered fishing ha that leaked enough to allow a strea of water to trickle down his for head and drop off his long hooke nose. As I paused beside the giar sycamore and looked at the figu standing still and dark against th swirling mists and gray green of th river it reminded me of an ancie heron. Beyond a few pines showe dim outlines through the fog an made a picture wierd yet fascinatin How long I stood drinking in th scene I do not know when sudden a pair of American Egrets came fla ping silently out of the mists an passed down to be hidden from sig by the fog bound willows. The sol tary figure the ghostly trees, the maje tic slow flying birds had all the pi turesque qualities one finds occasional in a rare old Japanese print. Perha part of the force of memory is th fact that these birds are rarely ol served along our northern mounta rivers.

Another episode in which the Marc Brown was the villian took pla early last season on one of the mo picturesque of Pennsylvania's mou tain streams. Wycoff with its stee rugged mountains, white birch ar conifers, waterfalls and icy wate fairly shouts, trout! to everyone wh travels its length. It's waters do n belie their promise. The trout a there. Natives in the headwate and browns and rainbows near th mouth.

The Boy in the Red Sweater w making his first trip of the year

mpany with three oldsters who had vited this particular stream for ars. A nymph and a March Brown fned "dead drift" near the gravel o the stream bed guarantees sport in the cold waters.

We parked the car just below the Fngers Station and assembled our gar. The Boy in the Red Sweater vth the enthusiasm of youth was the fst to set his lures in the back edy below the falls. A fat native o gorgeous color was his reward and vth this success he set off down s eam.

Chet, my fishing companion of many ars, followed more leisurely. We fh alternate pools with plenty of srcastic remarks on techniques from te fellow on the bank, and plenty o generously given advice when a fish i being played. This frosty morning vs slow in warming and we were diven to keep out of the water as nch as possible.

An hour or more passed until in runding a bend in the stream we sw the Boy in the Red Sweater sinding near the far bank with the vter swirling perilously near the to of his boots as he tried to reach hs March Brown. The fly was caught o a tough hemlock twig just beyond hs reach. Putting pressure on the lader he bent the stubborn branch, ad standing on tip toe he recovered hs fly. As the branch snapped away te slippery stones betrayed him and h shipped water over the top of one hot in his effort to regain the bank. Ve hurried to his assistance, pulled o the boot, built a fire and proceeded t wring the water from the soaking touser leg. Chet, ever on the alert fr fun slipped his camera from his jcket and took a picture of the dehdration process. Threats and countr threats passed between them but te picture will remind both that een in the gentle art of misfortune cn be fun.

The fire is down to a bed of red cals and in the stillness I notice that the March wind is driving rain against the west window. Come morning and the last snow will be gone from the back lawn. Already I can hear the slow roar of rising water in the hill brook, among the hemlocks just across the road.

It's bed-time but trout fishing is not so far in the future. I hope its warm enough and the water is right to try our March Browns.

IT "AIN'T" FAIR!

Who's the stranger, mother dear?
Look, he knows us. Ain't he queer?
Hush, my son, don't talk so wild;
He's your father, dearest child.
He's my father? No such thing!
Father died, 'way back last spring.
Father didn't die, you dub;
Father joined a fishing club.
But now the season's closed, so he
Has no place to go, you see;
No place left for him to roam,
That is why he's come back home.
Kiss him—he won't bite you, child;
All those fishing guys look wild.

—*Unknown.*

Ecological Sense or Nonsense

From page 3

were as high as seventy-four degrees in spite of the fact that this stream is almost entirely spring fed with water at about fifty-six degrees. We can all think of examples, such as: the lower Yellow Breeches, most of First Fork, the Bald Eagle, much of Little and Big Pine, Lycoming Creek, and a considerable portion of the Loyalsock. It appears that we, as fishermen and conservationists, must take a more active interest in the preservation of our forests and our fields. We must help preserve the soil and the plants on it in order to conserve our fishing in terms of stream temperature, stream cover, flood control, as well as in terms of the removal of millions of tons of silt or coal dirt. Let the same engineers, who are straightening the channels, building the dikes, and removing the bank cover with their bulldozers and steam shovels, replant the willows and the alders or other plants, which are proper ecological fits in these places. Ecologically speaking it should not be our purpose to remove the water from the surface of the land areas of the earth and get it back to the ocean in the quickest, straightest way possible. Ecologically we must in effect increase that fraction of rainfall which is called the water of penetration and which filters down into the earth to support not only the vegetation now but which might be called on later to do the same job. This is the water that reappears as springs and maintains the more or less constant supply that our streams must have if volume of flow and temperature are to be maintained at anything resembling a constant. We are living in an era of water shortage and water abundance. We are either not intelligent enough or willing enough to expend the energy to make it otherwise. At this time the city of New York is having a water shortage, serious enough in itself, but what does this mean to the fishermen of New York and Pennsylvania? What of the Schoharis which contributes its share to the water of New York City? What has become of the Esopus with its big, white water and the Rainbows which can be caught there? What has happened to the stream temperature of these creeks when their volume is reduced as it certainly must be now? The same is true in New Jersey and at least in some places in Pennsylvania. In the center of the state we have been using well water, or at least were, until very recently. Of course we can drink it and wash with it, and it is just as cold and apparently as plentiful. The local paper comments that the water engineers here are not immediately concerned with a water shortage, and from the viewpoint of so many millions of gallons per day for the inhabitants of the borough and for the industries located there, there is no immediate worry. But what will happen to the underground supply, the reservoir of water which has been here before us? What will happen to Slab Cabin Creek and Spring Creek if the water is removed from deep wells before a replaceable ground supply is found? What will happen to the springs which feed these streams, and ultimately, of course, what will happen to the fish in these streams and to the fishermen who fish for them? Until several weeks ago there were no fewer than half a dozen springs within ten miles of here which were dry—not small springs, but springs which have a flow ordinarily large enough to make a stream which supports trout under normal conditions—not small springs just big enough to dip a drinking cup, but springs holding a pool of water twenty to thirty feet in diameter. Although it might be entirely unnecessary to repeat it here, it is woefully true that "we never miss the water until the well runs dry."

It is reasonable to expect then that more than just pure or clean water is necessary for continued or improved fishing. As the fishing pressure increases, more fish must be in our streams for more fishermen to catch. Theoretically we could put more fish in the same number of streams, but there is no fisherman who would select this alternative over more fish in more streams. There is real fishing enjoyment in a stream near home and another farther away, in a small and in a large stream, in fishing one place for Brooks and another for Browns; and there are only a few fishermen who in the end would be satised to return to the same hole or the same riffle for all of his fishing.

The Warden Is Your Friend

FERN MOSS

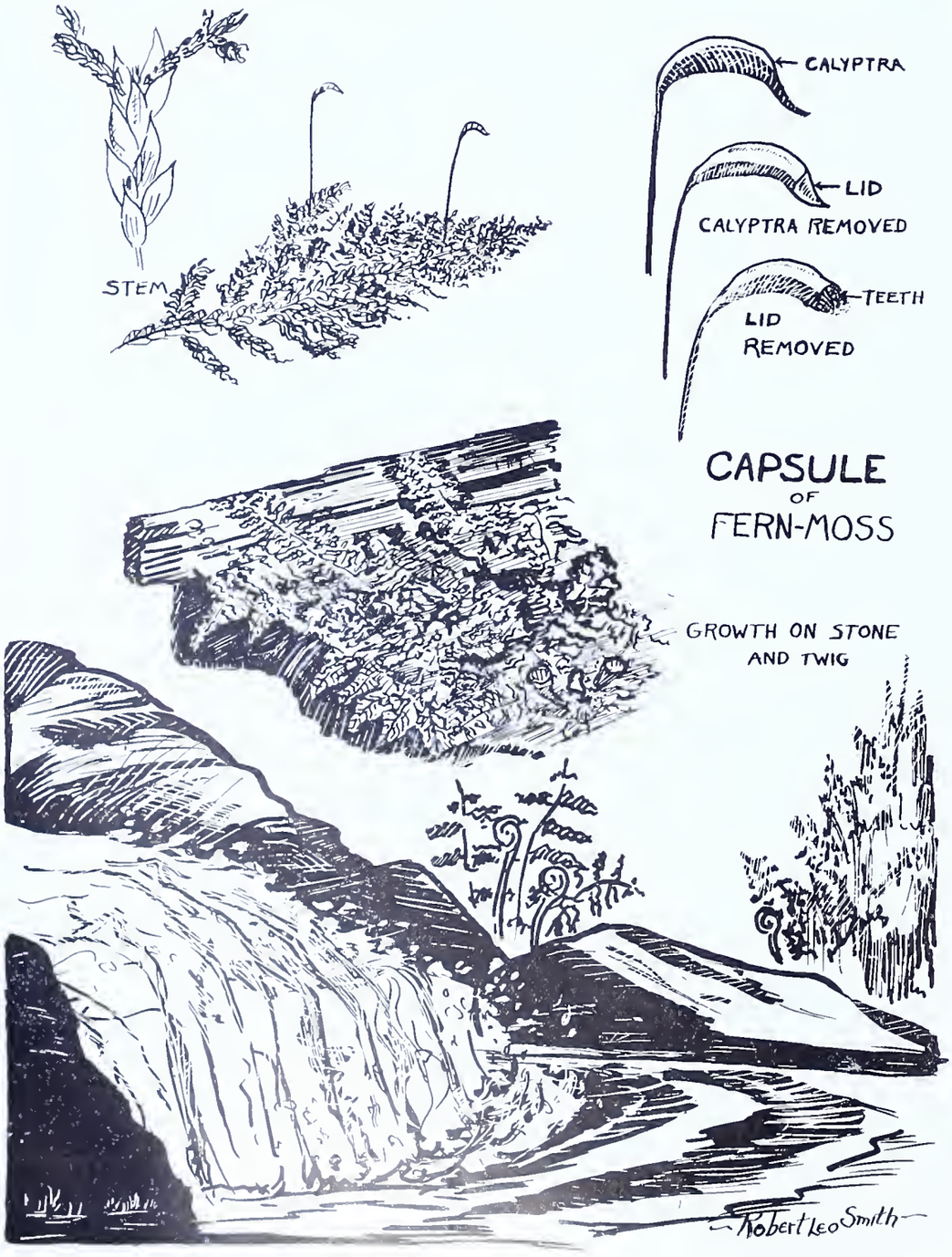
By ROBERT LEO SMITH

On stones partly submerged in the shaded portions of a stream, on boulders that tumble down to the water and on decaying logs by the streamside grows one of the most dainty of all plants, the fern-moss. You have seen it hundreds of times as you fished your favorite trout stream, though probably you paid little attention to it. The next time you are along the stream take time to examine it.

You can recognize this moss by its sprawling, fern-like appearance. This ferny effect is created by the loose, feather-like branching of the stems and the rich green leaves. The leaves of the branches are oval, concave at the base and pointed at the tip and those of the stem are crowded and enlarged at the base. Although the individual stems, branches and leaves are small, the fern-moss makes up for this deficiency by growing in tight mats several feet across, often completely covering a stone.

The fern-moss colony began when spores carried by the wind dropped on the stone. Moist, its surface already slightly decomposed into soil particles by the lichens that collected bits of dust and humus, the stone in the stream offered a place for the spores to develop.

J. F. Swager of Pittsburgh and the 4 muskie weighing 17¾ lbs. which he caugh the Allegheny River near Lock No. 8.



The spore germinates almost i mediately into a branching, alga-l structure known to botanists as protonema. Although green in col it is so small that it rarely attracts attention of anyone. The protone grows and branches out at right ang to the main filament and through ti small buds arise on the branches. Fr these develop the familiar moss pla

Some moss plants carry the fem reproductive organs, called archego and others the male organs, the theridia. The mature sperms are tained in the male organs until moisture conditions are right. Wl the moisture is sufficient, the mat male reproductive organs rupture, leasing the sperms which swim av to the female reproductive cells. H fertilization takes place. From this velops the spore-bearing plant, sporophyte.

The spore-producing plant of fern-moss is a conspicious and rat complicated structure. The spores velop in a curved capsule which borne on a long, stout stalk. This c sule has 3 parts each admirably su to the purpose which it must se Covering it is a hood-like calyptra. it matures the hood is shed, expos the capsule proper. It is capped b conical lid which protects the mo of the capsule. At maturity the li shed exposing the mouth, guarded rows of teeth which eventually rele the spores to the wind. Thus a generation of moss plants begins.

You can find the capsules best mid-winter and early spring on pato of moss not covered by snow. If examine them with a hand lens can see them in different stages shedding their spores.

ORY WITHOUT END

"DADDY" cried the child, in wonder, "What is that thing?" "A tree, son." "ut Daddy, it's too *big* for a tree, and h too beautiful."

ll tell you a story, my boy. It is one he saddest stories ever written, but I k you should hear it. It goes like this . . .

ce upon a time, not so very long ago, very spot where you are standing was heart of the richest, most wonderful try in the world. All the mighty forces ature had combined for millions of years repare a climate and soil perfect to pro- fine growing things. There were giants he earth in those days—giant trees—and hings, both vegetable and animal, were and fine in proportion. The people who here were a simple people, content with g from the earth just enough for a g. So the produce of the land flourished waxed strong.

t it came to pass that a new race of discovered this land of plenty, and great les of them descended upon it. Decent, -fearing men they were, mostly, but led by the limitless riches of the new . They were goaded by ambition and aving for the security which only posses- of material wealth seemed to offer. country appeared to them as a luscious t, ripe for the picking. They picked it; great devastation was created in the e of Progress. With the good things they from the land they built, almost over- t it seemed, a glittering, beautiful em- , the finest, the wealthiest the world had known. All the peoples of the earth veled, and the builders were exceedingly d, and they said: "Behold what we e done."

ow there were among them certain men e sober, more far-seeing than the rest, they pointed out to these vain and foolish s that without materials, their prowess builders would be of no value. At first y paid no attention. But as time passed, the numbers of the people increased, and their resources dwindled. The trees disappeared, and the crops, and the other fruit of the land, the birds and the animals and the fishes. The waters came roughly, but did not stay to nourish the plants and the people. The soil became poor and wasted away. The people became undernourished both in body and mind, and great spiritual erosion came among them. They suffered greatly, but they knew not what ailed them. They beat upon their breasts, and cried, "What shall we do?"

The prudent ones said: "We must build anew, not *upon* the earth, but *in* it, and learn how to produce again those things which sustain us, or we shall perish." The learning came hard and slowly, for the people were softened by abundance, and there were among them many scoffers, and many who could not see because they would not. Some wise ones said: "There are even now a few remnants of the glory that was ours. Let us preserve them, so that our children, and our children's children, may know what was their heritage. Perhaps these show-windows into the past will inspire them to do better in the future than our generation has done." So here and there small areas were set aside and spared from the axe and the plow. It is one of these which you see here, a sort of museum-piece, to show you what has been, and what—perhaps—could be again. We can't grow trees like this magnificent hardwood now, for we haven't the soil to do it. But the primitive trees which were its ancestors helped to build the topsoil which produces our food, clothing and shelter. Without it we could not live.

"But Daddy, that can't be the end of the story. What happened to the people?"

"Well, the story isn't finished yet. If we want a happy ending, we will have to write it ourselves."

"Well, Daddy, didn't you say that the trees helped to build the topsoil that built the materials that built the beautiful empire?"

"That's right, son."

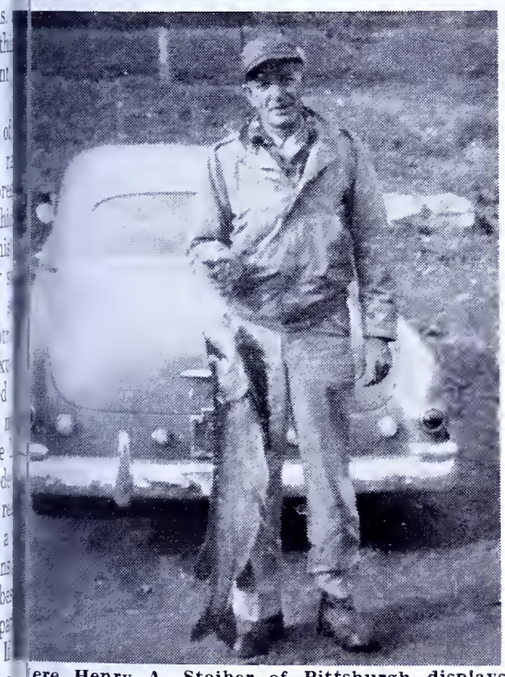
"Well, then, may I finish the story?"

"Different people might write different endings, and more than one might be right. Go ahead and tell me what yours is."

And so the people got together and they said: "What we need is a SECRET WEAPON." And they thought hard, and they tried many wonderful new ideas and feats of magic, but none of them worked for very long. Finally they said: "Trees and grasses did the job once. Maybe they could do it again." At first they didn't want to use trees, because it took them a good while to do their work; but now the people were sore afraid, and they said: "Better be slow and sure than swift and sorry." So the people worked hard together, and the trees and plants flourished, and nursed their soil back to health. The people prospered, and they rejoiced greatly, and gave thanks unto the trees for their deliverance.

"That's a fine ending. I wonder . . . 'out of the mouths of babes' . . . It wouldn't be the first time that the simple logic of a child excelled the wisdom of seers."

Reprint—Courtesy OUTDOOR INDIANA



ere Henry A. Stoiber of Pittsburgh displays a 6¼" muskie caught near Lock No. 8 in the egheny River. Stoiber took the muskie with ive minnow lure.

Fishing Contest Winners

Results of the Clinton County Fish and Game Association's Contest:

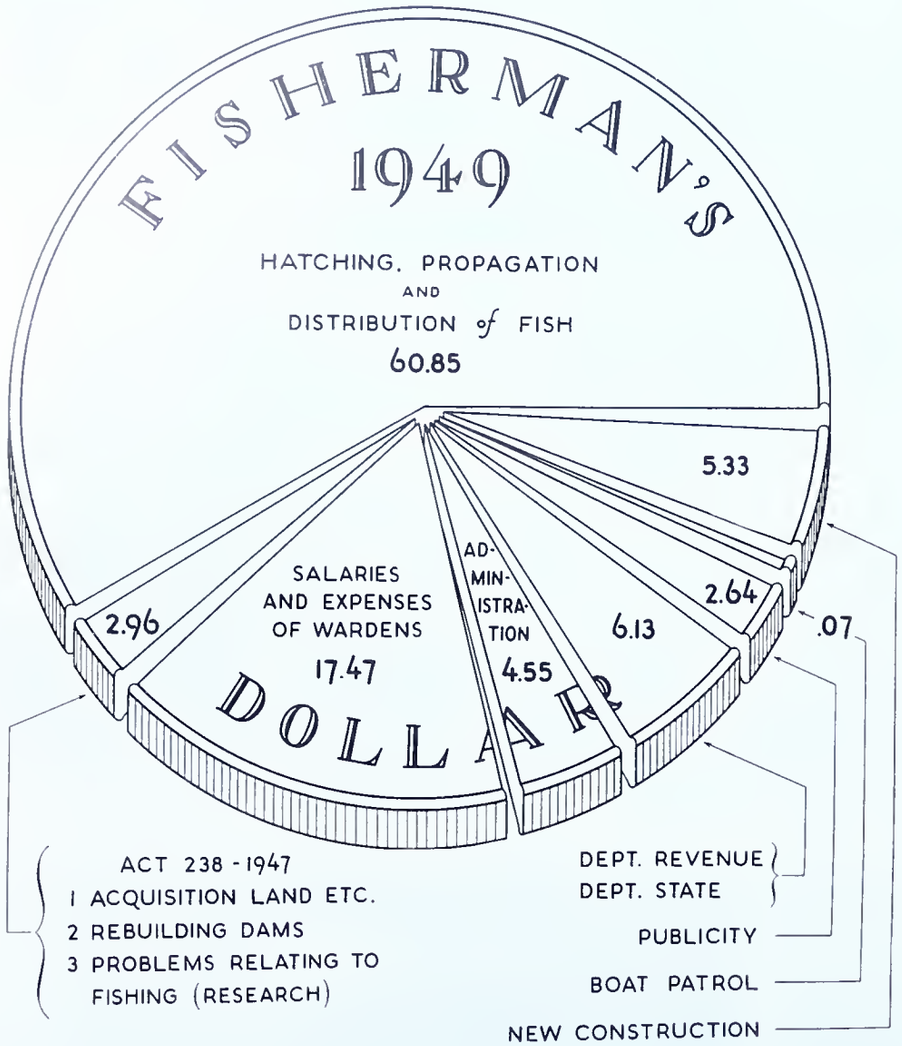
1. Largest brook trout—13½"—Harlan Kemmerer, Lock Haven.
2. Largest brown trout—26"—Russell Dauberman, Mill Hall.
3. Largest Rainbow trout—22¼"—Harry Eisaman, Flemington.
4. Largest grass pike—22¾"—Paul F. Russel, Lock Haven.
5. Largest bass and fall fish—Calvin McCaslin, Mill Hall.
6. Largest sucker—22"—Geo. K. Stover, Jr., Salona.

SNOW

By Laura Gruetzemacher
Illinois Fisheries Council

King Winter sends his snowflakes, pure, glistening and white,
To make of Earth a Fairyland, all in a single night.
A sparkling scene of beauty is each little country town,
And every mountain village when the snow falls gently down.
And, even in the city, where its beauty cannot last,
We glimpse a fleeting vision when the flakes are flying fast.
Snow is like true Friendship, there's healing in its touch,
It glorifies the best of things, and covers up so much.

Nylon monofilament leader material in 25-yard and 100-yard lengths of all popular diameters is now being sold in a new package-dispenser. The center of the transparent plastic dispenser opens easily under finger pressure to allow the coiled leader material to be drawn out without tangling or kinking. The fisherman who buys long length of the leader material for use as a line finds the new dispenser a convenient storage reel for the line until it is used again.



COMMONWEALTH OF PENNSYLVANIA

PENNSYLVANIA FISH COMMISSION

HARRISBURG

C. A. FRENCH

Executive Director

FINANCIAL STATEMENT
AND
FISH STOCKED IN 1949

The following is the official report of fish placed in the waters open to public fishing in Pennsylvania.

Species	*Approx. Size*	*Number*	*Total*
Brook, Brown and Rainbow Trout	7″ to 20″	2,150,023	
Black Bass	1″ to 12″	599,497	
Catfish	5″ to 12″	373,531	
Bream	3″ to 8″	584,306	
Frogs (Embryo)		301,000	
Carp	10″ to 20″	107,700	
Yellow Perch	3″ to 8″	93,003	
Minnows	1½″ to 6″	245,565	
Pickerel	7″ to 18″	3,979	
Calico Bass	7″ to 11″	9,500	
Pike Perch	10″ to 30″	275	
Goldfish		50	4,468,429
Fry and Fingerling			
Trout	Fingerling	2,408,190	
Yellow Perch	Fry	257,800,000	
Pike Perch	Fry	1,875,000	
Cisco	Fry	5,000,000	
White Fish	Fry	36,600,000	
Blue Pike	Fry	22,375,000	326,058,190
Grand Total			330,526,619

FINANCIAL STATEMENT
PENNSYLVANIA FISH COMMISSION
CALENDAR YEAR 1949

BALANCE—January 1, 1949		
Cash		$729,788.01
U. S. Treasury Certificates		109,000.00
		$838,788.01
RECEIPTS—1949		
Resident Fishing Licenses	$1,238,492.70	
Non Resident Fishing License	56,183.85	
Tourist's Fishing Licenses	14,869.60	
Eel Chute Licenses	39.00	
Lake Erie Licenses	2,762.00	
Commercial Hatchery Licenses	1,585.00	
Motor Boat Licenses	43,553.25	
Fish Law Fines	33,408.00	
Motor Boat Fines	2,585.00	
Contributions for Restocking Streams	23,800.00	
Sale of Publications	6,576.80	
Sale of Unserviceable Property	298.91	
Interest	7,355.29	
Miscellaneous	24.82	
		$1,431,534.22
Total Funds Available		$2,270,322.23
EXPENDITURES—1949		
ADMINISTRATION		
Salaries	27,774.60	
Wages	6,474.21	
Printing, Binding & Stationery	10,452.26	
Materials & Supplies	565.73	
Traveling Expenses	1,902.51	
Motor Vehicle Supplies & Repairs	731.33	
Freight, Express & Cartage	64.01	
Postage	2,021.00	
Telephone & Telegraph	1,427.39	
Newspaper Advertising & Notices	40.25	
Contracted Repairs	223.92	
Rent of Real Estate	26.55	
Insurance, Surety & Fidelity Bonds	290.06	
Other Maintenance Services & Expenses	184.87	
Equipment & Machinery	672.23	
Total	$52,850.92	
WARDEN SERVICE		
Salaries	$108,632.66	
Wages	15,011.38	
Fees	336.56	
Printing, Binding & Stationery	28.65	
Materials & Supplies	1,493.18	
Traveling Expenses	72,704.49	
Telephone & Telegraph	3,311.15	
Contracted Repairs	5.05	
Insurance, Surety & Fidelity Bonds	585.81	
Equipment & Machinery	886.61	
Total	$202,995.54	
FIELD SERVICE		
Salaries	$13,371.00	
Wages	19,529.03	
Printing, Binding & Stationery	305.89	
Materials & Supplies	1,176.14	
Traveling Expenses	4,142.25	
Motor Vehicle Supplies & Repairs	337.78	
Telephone & Telegraph	1,271.21	
Light, Heat, Power, Water & Fuel	73.00	
Contracted Repairs	462.00	
Rent of Equipment	74.00	
Insurance, Surety & Fidelity Bonds	115.87	
Equipment & Machinery	68.40	
Total	$40,926.57	
HATCHING SERVICE		
Salaries	$176,971.00	
Wages	152,573.09	
Printing, Binding & Stationery	706.93	
Food & Forage	219,785.54	
Materials & Supplies	41,176.79	
Traveling Expenses	10,002.99	
Motor Vehicle Supplies & Repairs	25,710.07	
Freight, Express & Cartage	269.80	
Postage	1,020.80	
Telephone & Telegraph	2,403.45	
Light, Heat, Power, Water & Fuel	26,927.87	
Contracted Repairs	1,126.92	
Rent of Real Estate	1,144.00	
Rent of Equipment	235.50	
Insurance, Surety & Fidelity Bonds	1,819.21	
Equipment & Machinery	4,220.29	
Total	$666,094.25	
EDUCATION & PUBLICITY		
Salaries	$5,904.00	
Wages	3,271.58	
Fees	2,293.20	
Printing, Binding & Stationery	16,429.52	
Materials & Supplies	497.33	
Traveling Expenses	1,244.56	
Postage	600.00	
Contracted Repairs	4.45	
Rent of Real Estate	165.00	
Insurance, Surety & Fidelity Bonds	22.61	
Other Maintenance Services & Expenses	19.27	
Equipment & Machinery	163.30	
Total	$30,614.82	
CONSTRUCTION (PYMATUNING SANCTUARY)		
Wages	$42,915.13	
Materials & Supplies	17,130.58	
Motor Vehicle Supplies & Repairs	1,260.52	
Contracted Repairs	99.25	
Rent of Equipment	275.50	
Equipment & Machinery	209.68	
Total	$61,890.66	
BOAT PATROL SERVICE		
Materials & Supplies	$287.40	
Contracted Repairs	77.95	
Rent of Real Estate	100.00	
Insurance, Surety & Fidelity Bonds	329.58	
Total	$794.93	
BY PENNSYLVANIA DEPARTMENT OF REVENUE (Bureau of Miscellaneous Licenses)	61,559.99	
BY DEPARTMENT OF STATE (State Employes Retirement Board)	9,638.50	

The following expenditures were made by the Pennsylvania Fish Commission in accordance with the provisions of Act No. 283 of the General Assembly of 1947:

PROBLEMS RELATING TO BETTER FISHING—RESEARCH		
Salaries	$7,836.00	
Wages	10,560.59	
Printing, Binding & Stationery	606.57	
Materials & Supplies	3,975.56	
Traveling Expenses	2,626.31	
Motor Vehicle Supplies & Repairs	179.35	
Freight, Express & Cartage	2.21	
Contracted Repairs	22.50	
Rent of Equipment	27.00	
Insurance, Surety & Fidelity Bonds	80.04	
Motor Vehicles	2,838.27	
Equipment & Machinery	4,073.70	
Total	$32,828.10	
ACQUISITION OF LAND AND FISHING WATERS		
Wages	$999.68	
Traveling Expenses	608.11	
Total	$1,607.79	1,161,802.07
BALANCE—December 31, 1949		$1,108,520.16*

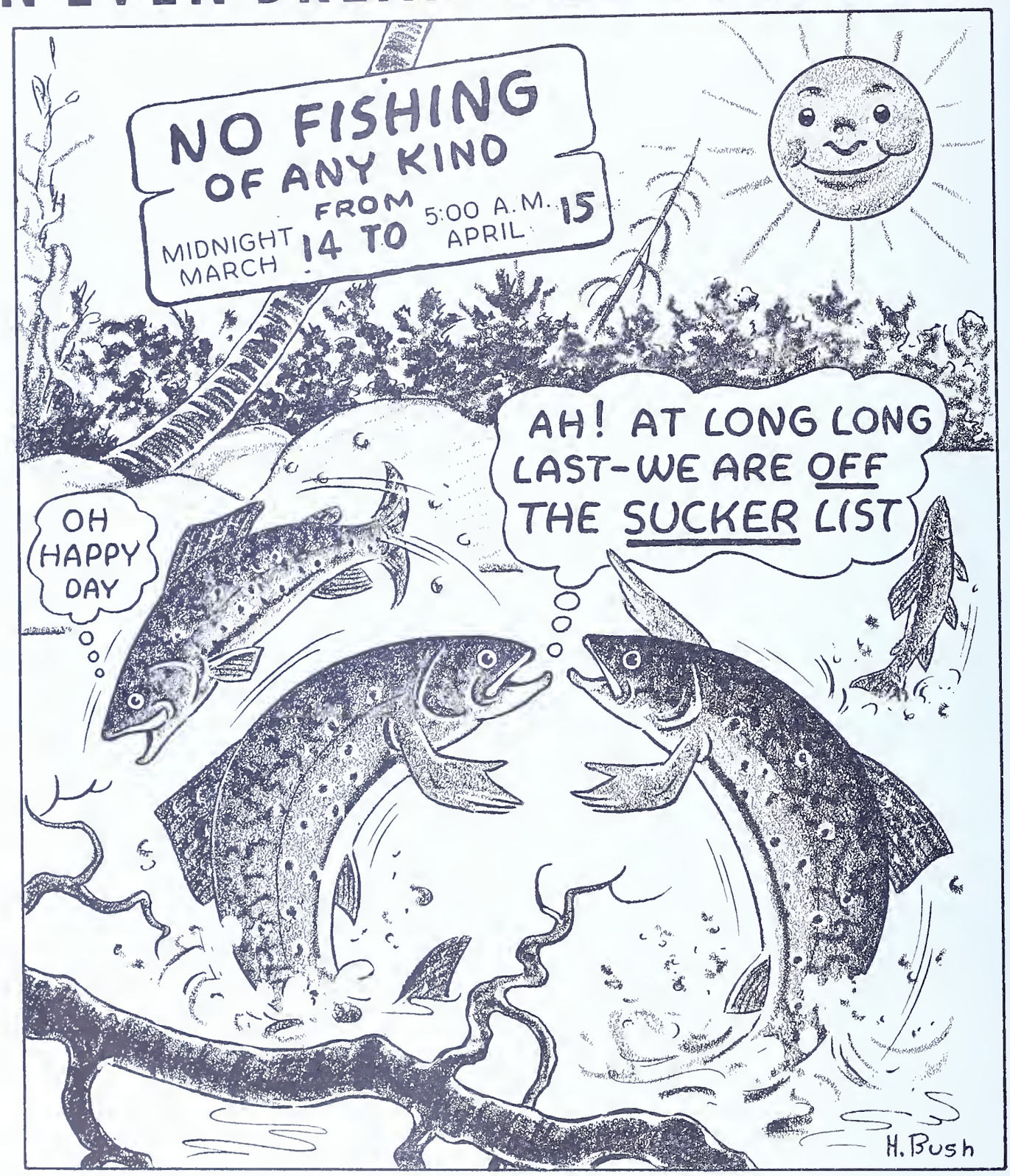
* $ 999,520.16 Cash
109,000.00 U. S. Treasury Certificates

$1,108,520.16

Act No. 283 of the General Assembly of 1947 provides that effective the first day of January 1948, twenty five cents (25c) from each resident fishing license fee shall be used exclusively for—(I) The acquisition of land and fishing waters, (II) The rebuilding of torn out dams, and (III) The study of problems related to better fishing. During the calendar year 1948 there accrued the amount of $147,862.00, from which amount $21,358.83 was expended for Research. During the calendar year 1949 there accrued the amount of $154,811.00, from which was expended the amount of $34,435.89, as shown in detail above.

Accrued		
1948	$147,862.00	
1949	154,811.00	$302,673.00
Expended		
1948	21,358.83	
1949	34,435.89	55,794.72
Balance		$246,878.28

AN EVEN BREAK! FOR EVERYBODY



SPECIAL NOTICE!

"By Special Amendment of the Fish Laws passed by 1949 Legislature--All Fishing is Prohibited in any Waters from Midnight, March 14 to 5:00 A.M., April 15, 1950, Except in Rivers, Lakes or Ponds Not Stocked with Trout."

PENNSYLVANIA FISH COMMISSION

PENNSYLVANIA Angler

April 1950

PENNSYLVANIA Angler

OFFICIAL STATE PUBLICATION

OFFICIAL STATE PUBLICATION VOL. XIX—No. 4 APRIL, 195

PUBLISHED MONTHLY BY THE PENNSYLVANIA FISH COMMISSION

HON. JAMES H. DUFF, Governor

★

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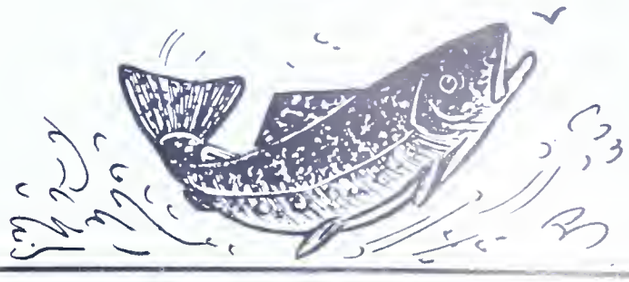

OMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
ISH COMMISSION
HARRISBURG, PA.

The Angler

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TROUT SEASON AND TIME FOR GARDEN HACKLE!

Waste Means Poverty

By DR. IRA N. GABRIELSON

President, Wildlife Management Institution

Americans take pride in the fact that they have built a great nation in record time. This has been accomplished, however, only because this land was abundantly endowed with natural resources that could be developed and utilized. Each new generation could look to new and undeveloped lands and resources as a certain source of exploitation, but we are now approaching the end of such possibilities.

New land that can be cultivated is limited to that which can be irrigated by the limited water supplies available in western states. The mineral resources on which much of our industry is based are limited and the end of some already seems in sight. Our forest resources have been and are still being depleted at a much faster rate than the annual regrowth. In other words, we now face the necessity of more efficient management with less of the appalling waste of such resources as still remain.

Europeans have learned some of the answers and today, after thousands of years of use, their lands and forests are in comparatively better shape than ours. Complete utilization of forests and forest products can be seen in Europe rather than in the United States. We still waste enough despite the vaunted efficiency of our industrial processes to supply many needs. We are still pouring our soil into the sea at an unprecedented rate although Europe has long since learned how to prevent and control excessive erosion. We, too, must learn these lessons.

America is still relatively wealthy in natural resources. To the extent that she applies better management and better utilization, we can still remain a great nation. If we do not, despite the vast expanses of our territory included in our boundaries, this nation will sink to the status of a second-class power with worn out soils, vanished resources, and a poverty stricken population. It will come with continued waste just as certainly as it came to China's eroded hills and to the barren and desolute stretches that were once the productive lands of Asia Minor.

The continual growth of human population in this country is forcing us to focus more attention on conservation problems as human utilization of land and water becomes more intensive. These problems of the management of all resources will be of increasing concern to each generation until every American is consciously aware of his intimate relationship to and vital dependence on the natural resources.

Ecological Sense or Nonsense (II)

By ALVIN (BUS) GROVE

Several months ago I met a man—a sportsman, a fisherman, a hunter, and last but not least a collector of things. I have forgotten his name now, but it does not matter because it was his collecting that made me think, not his name. I thoroughly enjoyed my conversation with him, but the further away I get from the many things that we talked about in a very short time, the more one topic of our conversation comes into focus. From one thing mentioned in our discussion, I have envisioned: an essay on supply and demand, economic survival, zoological research, and the educational process; but mostly I think about aquatic insects and their importance as fish food.

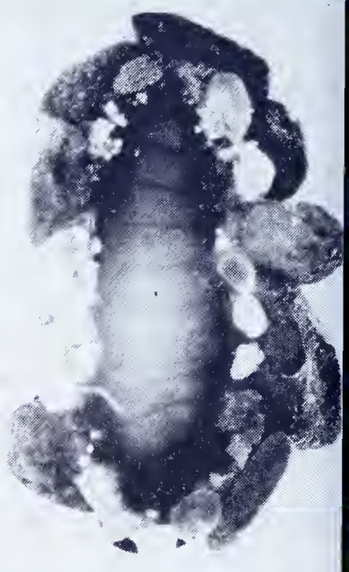
Quite a few years ago my Dad took me fishing. I do not remember now just when it all happened, but I was so young on the first fishing trip that I have forgotten what it was all about and only remember now that sometime during the day I dropped the rod into a shallow riffle, walked away, and became interested in chasing butterflies, or something of the sort. Gradually though I learned that I was after Black Bass, and slowly but surely I found out where and how to catch them. The way to catch them was with live bait. Although at first I only helped, later I went to the creek alone and came back with enough stone rollers for three or four fishermen on an all day fishing party, and then occasionally had a few left over to dump into a long, wooden box which was kept under the water faucet in the cellar. I collected them in the daytime with a black stocking-net, an article which I think is about gone now, and I caught them at night with a three foot square dip net, using either bread or a ball of worms as the attractor. The blacker the night the better were the results, and it was nearly a criminal offense either to strike a match or go downstream a distance to get the lantern. Sometimes we did though when a fish got into the net that was obviously not of the right size or shape to be a stone roller. I learned how to collect and keep hellgrammites. I could pick out the correctly shaped stone even from a distance, and very rarely did I miss. In collecting hellgrammites I would have been considered conservative because I picked up each stone individually, and after making my collection, carefully lowered it again so that later I might find another there. Later someone showed me that I could move an acre of stones in some shallow riffle with a garden rake and that enough hellgrammites would float down into the waiting net to make the job easy. I collected tadpoles too and small frogs. Always one half day was devoted to collecting minnows, and usually this was delayed until the last possible minute before going on a fishing trip because they would not live very long. I used bait buckets and lard cans. I put ice in the water and blew through a piece of rubber hose to make bubbles of air come up through the water. I never filled the can completely with water because it should splash around some to pick up new air and stay fresh. I dug garden worms, and then just in case they might not work, I picked some night following a rain and collected the larger night crawlers. At various times since then I have collected catalpa worms, white grubs, pine borers, meal worms, the larvae or puppae of wasps, hornets, and many other things all of which masquerade under the name of bait and are used to catch fish.

When I think of the bait that I have collected, I think of the conversation which I had with the man whose name I cannot remember now and see that my collecting was something like his although he has done it on a much larger scale. I collected bait to fish with—some for Dad, some for Uncle John, some for Walter, and so on down the line. Now and then I did sell a little but only to help out a friend in need and not because I wanted the money. The man I met the other month though has collected certain kinds of bait for twenty-five years to fill orders for various institutions which needed such specimens in their Zoological research. There was a c tain law of supply and demand w the necessary economic incentive help to satisfy it. That, I think, is reason why so many ideas have pas through my mind on what such article as this might be about.

As I look back a little, I think th would have logically been called a b fisherman. I have no quarrel with bait fisherman and I still get a kick of it. In later years I perfected so of the techniques, and as a matter evolution I had to try live mice, gra hoppers, crickets, water worms, st fly nymphs, caddis worms, May nymphs, fresh water leeches, an guess some others, which I can remember now. More recently a part of my fishing education, I h read some books about bait fishi and not being entirely satisfied w these, I opened some fish stomachs have a look. I have read a numbe books written by Entomologists Ichthyologists about the food of f I have studied charts on stomach c tents for every month of the year have peered through the microsc at many of these so-called baits. I sected and drew pictures of ea worms, crayfish, locusts, cockroac and others. After some time I be to feel that I knew a little about and a good deal less about how to them. Now I find it does not mak much difference, for it is much ea to reach into the fly box and get o dry fly, nymph, spinner, streamer, bug, or some other concoction.

At first I collected and fished cer baits because someone told me they were good, and they showed how and where to collect them. I

A. Dorsal view, stone or sand-case Caddis.



B. Ventral view, same case. Notice puppa case.

Adult Caddie fly with egg mass.

Caddis worm.

nstructed in how to hook, bait, and ndle them. Later I fished with bait cause I understood then that they re the natural food of the fish. More ently I like to think that I have erned that with each removal of a ural bait from the stream, I have lerived a fish of a meal of possible vival. Also for everyone that I re-ve, I not only take away the pos-ility of the reproduction of that one, in stirring around in the stream, I troy the habitat of perhaps thou-ds more.

During the last twenty-five years or many new laws have been added to fish code controlling the taking of ural bait. It was and still is neces-y. It used to be possible to stop any number of streams on the way the North Branch of the Susque-na and collect enough stone cats in time at all for a day's fishing. It s equally as easy to collect them in southern part of the state on the y to the Shenandoah River; I know cause I have done both. Today it a be quite a job to collect enough to h with even from the same streams r at least from those places in the eams where they used to be so ndant. I am convinced that the oval of natural baits from our eams has had a great deal to do h the fish population there. It is st certain that without food bass, ut, pickerel, and other fish cannot e. How do we expect to have more h in less water with less natural d to satisfy twice or three times as ny fishermen as twenty-five years . As fishermen we complain that fishing is poorer, we complain that creel limit has been reduced sev-l times, we complain that all of the h are stocked and not as good to eat. t with all of our complaints, most of do little to help in correcting the uation.

Just as there is a standard of living for the peoples of the world and many different standards in each place, so there must be something comparable in the fish world. In order for a fish to survive, a certain quantity of food is required, which could be measured in terms of pounds if necessary. For the same fish to grow and to reproduce, additional food is required. With reproduction there is an increase in the number of fish which require more food, and this population cycle continues until a balance is reached between the number of fish and the amount of food available and necessary to support them. Of course, there is nothing new or revolutionary about what I have just written, but in spite of the fact that we all know this very simple fact, we try to burn the candle at both ends, first by taking away the food and then insisting that there be more fish to catch. Of course this is impossible, and as a matter of fact the competition and problem of survival are becoming more critical. As the fish population decreases, we use more and more bait because we must go fishing more times to catch the same number of legal fish. Often we collect several different kinds of bait when previously some one favorite normally did the trick. To compensate in part for this predicament, the hatcheries try to raise more fish to replace those we catch, but they cannot under most circumstances raise the food that should go with them. They may raise minnows and stock them in a lake, or conceivably they could raise stone rollers and do the same with them; but it would be quite impractical to raise Dobson flies, May flies, stone flies, caddis flies, and the many members of the Class, Diptera. Yet these are the insects which contribute the largest quantity to the food of fish and of trout in particular. If there were some specific law by

G. Scud. One of many Crustaceans found in our streams.

which the numbers of these aquatic insects collected could be controlled, it might be a satisfactory answer, but unfortunately no one has been able to think of a way to just control the numbers taken. Several years ago the State of New York and just recently the State of Maryland found it expedient to add to their fish code a rule which prohibited the removal of any natural food from a trout stream. Just what constitutes a trout stream may be debatable at times; but if the rule applied to streams which were known to contain trout, or which were stocked with trout, or in which fishermen normally fished for trout, it would be satisfactory. The rule should be easy to interpret and easy to enforce so that both the sportsmen and the fish wardens would have no trouble in understanding it. Many fishermen have told me that the hatches of insects along trout streams which they fish are smaller now than at any time within their remembrance. The man whom I met told me he had to take more time, cover more miles of water, and even include additional streams now to collect the same number of aquatic insects that he previously collected with little or no trouble. If

(*Turn to page* 20)

E. Mayfly nymphs.

F. Stick case Caddis.

SPINNING FOR TROUT

By DON SHINER

Some prominent conservationists have publicly denounced spinning as the most deadly method of fishing and should therefore be declared as unlawful else our streams will be depleted of fish. In answer to this charge I would say this is a fallacy. While the spinning rod and reel does account for more fish being creeled than does the wet and dry fly fishing or using bait, in this respect fishermen are finding spinning a delightful game. They not only account for more *big* fish being taken, but are aiding conservation principles for they are ridding our streams of the old and over-grown trout which are the cannibals of the streams.

There is a pool Cole's Creek (Columbia County) that for years was regarded as one of the finest sections

Take along a handful of assorted lures for the light weight spinning line causes the angler to use and lose uite a number. Include a number of spinners and flies for they are "top-rate" lures for big trout.

for fly fishing in the entire stream. When ever the stream was visited one could always count on catching a few trout from it. Then, suddenly the good fishing was abruptly curtailed and continued to remain as such and that pool soon acquired the name as being 'fished-out' by all those who visited it. However, there was a reason why this pool fell down so miserably as being a potential yielder of trout. After spending an afternoon beside this pool, the answer became obvious.

One day after growing weary of fishing for the afternoon I sat down beside the pool beneath a huge hemlock tree and sat idly by admiring the many picturesque scenes up and down the stream. Suddenly, as if from nowhere, a huge splash was made in the smooth water directly below where I was sitting. As the sun was in the exact position to afford a good view in the pool, I searched the pool and soon caught sight of a monstrous trout. It had made a pass at a minnow and was in the process of eating it. I'd judge that fish to be all of 30 inches in length.

Right there was the answer why that pool was a so-called fished-out area. That big trout had devoured all the 6 to 12 inch trout and had routed the larger ones from the pool. Only it and the small minnows remained.

A months time had elapsed and then one morning the daily paper featured a front page picture of a lad who had caught a 27 inch brown trout on spinning tackle in Cole's Creek. It was taken on a small spinner and fly. I knew, as others did, that that was unmistakably the big trout seen frequently in this particular pool. Checking with the fellow, the belief was found to have positive grounds.

Almost immediately fishing in that pool began picking up. Fishermen reported catching one, two and three trout from it on occasional visits. It wasn't long afterward that it again was regarded as one of the top producing pools of the stream.

Spinning had accounted for the landing of that trout. It also accounted for the good fishing that followed. By removing that oversize trout the younger and smaller trout had a chance to grow and feed unmolested. Too, the feed was more evenly distributed instead of it being required by just one large trout.

How did spinning account for taking this big fellow, yet it persisted to exist in spite of the many fishermen using

To cast with the spinning reel, open the pick-up arm, hold the line with the fore-finger, then snap the rod forward releasing the line at the exact instant and the lure will sail outward an unbelievable distance.

all kinds of tricks to get it landed? It took light tackle to do the job and something more large than a small wet, dry or streamer fly. Some wet fly fishermen and some who used bait reported to have had it hooked numerous times, but that trout was an old hand at thrashing around and it soon smashed the light tackle. Using heavier and stronger leaders with flies, the artificials wouldn't work or look natural and the big brownie wouldn't budge an inch after them. Then too, the pool was in such a position that it could only be fished on one side and that fish had ample opportunity to inspect the surroundings for any sign alarm or danger.

Spinning took care of all these han caps. Incredibly long casts can made with this method and the ang doesn't need to maneuver very cl to the fish in order to present the lu The reel too is built in such a manr that it is the ideal outfit to use wh battling those big hefty fish. The ang merely turns the handle of the r and if the fish makes a sudden ru up stream the reel merely slips. Th when the fish eases up on the tensi instantly the reel takes up the sla The reel can be set for the exact li breakage and will slip just before t pressure is strong enough to break t line.

Lures up to 3/8 of an ounce c be cast and outside of the dry and w flies, the smaller 'casting weight' lur are really the ones that take fi Especially small spinners and fli these lures are at the top of the l for luring big trout to the creels.

So here is one good case of w spinning isn't detrimental to fishir but instead, an outstanding asset controlling the large cannibalistic fi Minnow fishermen account for most of the overgrown trout being tak from the streams, but the angler w enjoys using artificial lures on a spi ning rod can do likewise on an ev bigger scale. Make no mistake abo it, getting the big trout from t streams definitely increases the fishi potentialities.

So this year, if you haven't alread try spinning. You will find it a fascina ing game. The favorite outfit is a 7 7½ feet spinning rod and a good qua ity spinning reel and 4 to 6 pou monofil or braided line. As for lure there is a big variety to choose fro and it's wise to have a fair assortme for one may work well one day and y produce nothing the following da Then too, undoubtedly more lures a

Then, without passing the rod from one ha to the other, begin to turn the handle th closing the pick-up arm and the line begi to be retrieved. Even bait fishing can be do with a spinning reel, for this method of fishi is truly versatile. So this year try spinning.

st through spinning for the chances getting the lure fouled are always esent and the light weight line will t stand much yanking. And the fel-w who hesitates losing a lure gen-ally ends the day with the creel as ean as when he started.

So carry some small wobblers, a few rall plugs and some spinners and flies, ith possibly a few weighted stream-s. In addition to this, some live baits n be used on the spinning rod. orms, minnows, crawfish and frogs n be cast very well on a spinning rod d there is little chance of the bait ing jerked from the hook during the st if a little precaution is taken.

One day I was fishing the Hunting-n Creek with a friend, both of us ing equipped with spinning rods. We d started at the pool known as the ld Iron Wood Tree Hole' above atterson's Grove and had fished up-ream for better than a quarter of a ile during the first hour. The sun as hot and the water felt cool through e thinness of our boots. That stretch of water did not yield a strike. We stopped for a pipe-full of tobacco and talked over our lure assortment. I decided to keep on with the one I was using, a small single blade gold spinner and a Brown Hackle fly. Bob changed over to a double blade silver spinner and a Black Gnat fly attached to it.

The next good stretch of water was just ahead of us. It started on a bend of the creek in fast water then slowed down to a smooth deep run with one side of the stream bank having some hemlock trees that bend toward the water. The pool was a good city block long and before we had fished through it, we had each taken a nice mess of brown trout measuring 12 to 16 inches in length. Why the sudden change of luck could only be contributed to one thing. Since the water was rather high and roiled, we had added an extra split shot to the line. In this way our casts were made even farther and the lure hugged the bottom of the stream where the trout were lying.

I went back to the same spot the next day thinking I would get some more of that good fishing in that stretch of water, but the entire day only produced one fish, even though I was using the same lure! I was confident that a spinner and fly would be the trick lure and had gone on the stream with only a handful of these lures. Chances are if I would have had a selection of lures the day's results might have been different. However, how one day can be so good and the next one so poor is one of the mysteries of angling. But, if there are any fish to be had, especially the larger ones, I'd state my bet on the spinning angler.

One thing that makes spinning lures so deadly on big trout is the way in which they can be cast back under the overhanging trees along the pools. Big trout lurk there in the shadows during the day light hours and then move out into the shallows during the evening.

If one were to examine the stomach contents of these fish they would be found to contain minnows up to 6 and 8 inches in length. Small plugs, closely colored to the natural minnows, are ideal spinning lures to use when casting back under the overhanging brush. The Junebug spinner with a red skirt (which looks like I don't know what) has appeal too for the wary eye of these fish.

This type fishing calls for mastered accuracy with the side arm cast. I remember a little pocket back in the brush along one stretch of water that was a trial for any fisherman. I hung a lure over a limb on the first cast and tore the line and left the lure there. The second cast with a new lure fell about a foot short of where I wanted it to go. The third cast went two feet or so too far and I lost another lure on the far bank in a scramble of some laurel bushes. The fourth cast the lure finally fell in the general vicinity of where it was intended and hardly had it hit the water when one of the largest trout I believe I ever hooked bolted out of the water and then raced down stream. I was far from expecting the action and I would have missed the trout except in its rush to grab the lure it became hooked.

Twenty yards down stream I was able to net the trout. I would never have had the fun of those few minutes had I not taken a chance of losing some lures. The big fish just don't lay out in the open where one can get at them easily and this is one reason why they are frequently over-looked. And with a spinning rod, your casts will be distant enough that you will be out of the trout's line of vision.

Casting with a spinning rod is fascinating. While many fishermen complain that they can not become accustomed

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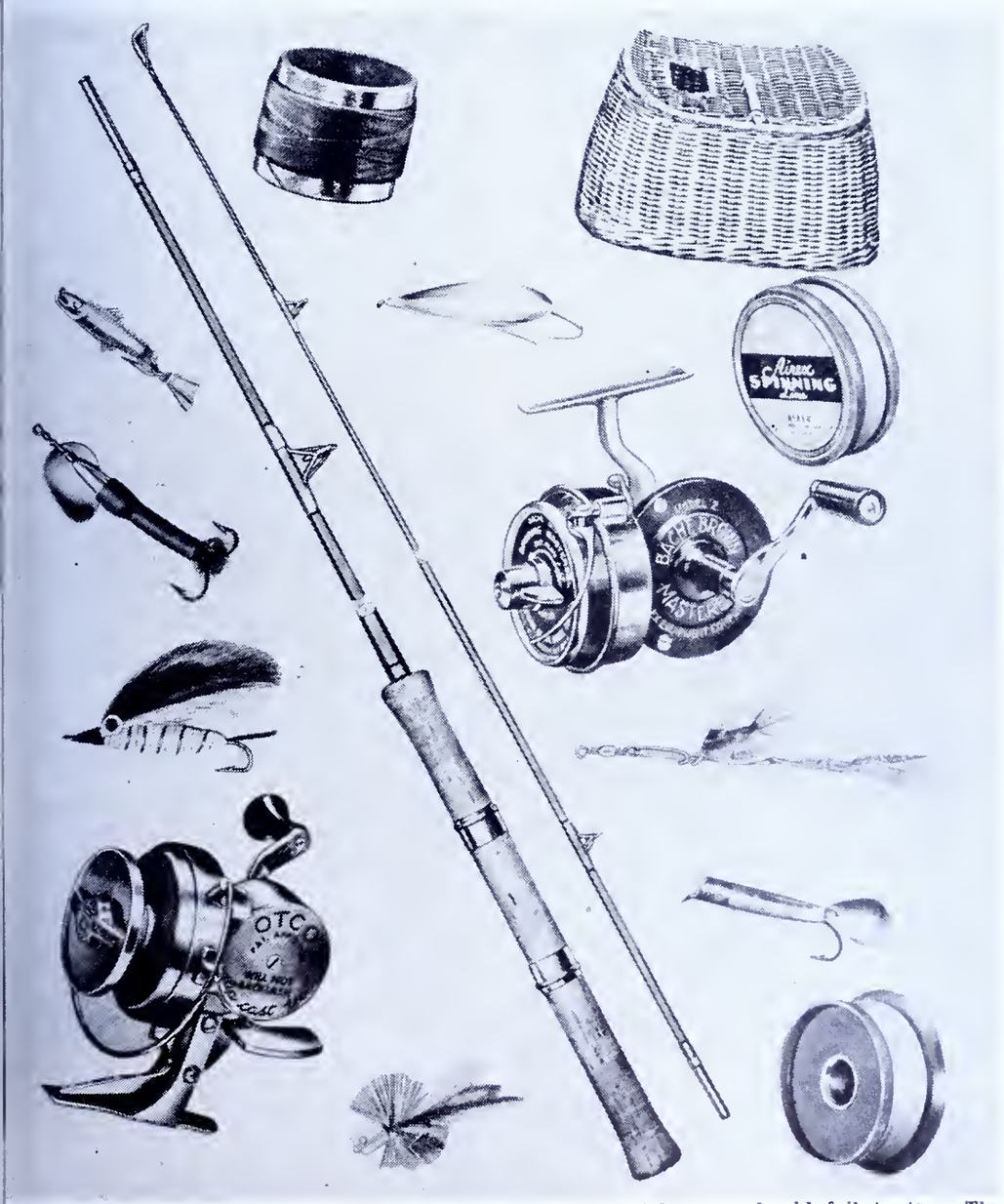


Spinning, the all-around fishing method, is a game no fisherman should fail to try. The equipment don't consist of much, merely a rod, reel, line and a small assortment of lures. Try it this year.

THE MAKINGS OF A FISHERMAN

By N. R. CASILLO

What makes a fisherman? And by fisherman we don't necessarily mean one who always catches fish. Indeed, some of the most inept fishermen I ever encountered frequently caught more fish than genuine fishermen. Paradoxically, catching fish is not along the hallmark of a fisherman.

What were the factors, events or circumstances that caused you to succumb to the fascination of fishing? Were you initiated by a thoughful father, wayward companions, seductive magazine advertisements or what? Were you intrigued by the word witchery of an Izaak Walton, a Henry Van Dyke or a Ray Bergman? Perhaps, it was because of your natural desire to possess the finny inhabitants that you observed on your jaunts along pond and stream. It may have been a combination entailing some of the foregoing or none at all.

It is our fervent hope that these questions have plumed the depths of long forgotten memories; memories which most of us cherish, although I once heard a frustrated chap declare that he rued the day when he was enticed to fall for the fickle sport.

"I trust it wasn't because you didn't catch fish?" I asked mildly.

He glared at me. "Catch fish!" he finally snorted and then laughed derisively. "Why," he slowly intoned, "I lost my wife."

I didn't press the point, but I later learned that he had had a good time doing it. And to his everlasting credit, it may be said that he still angles.

When but a broth of a lad in my native heath, I can vividly recall my mingled feelings when I read the telegraphic bulletins issued from time to time by the Boston & Maine railroad such as, *The ice has gone out of Sebago Lake.* Other bulletins would follow periodically announcing that altogether important event taking place on other lakes.

In those days I didn't attempt to fathom the queer feelings induced by those brief messages. However, in retrospection, I know now that it was a combination of the many things conjured up by an active imagination. I could almost smell the clean, raw odor of the rotting ice thrown up on the shores of those inaccessible lakes, the balm of the pines and newly exposed leaf mold. I could see the lazy, fleecy clouds driven by a brisk, spring wind across a flawlessly blue sky; the waves just high enough to match my strength and skill with the oars. Yes, even the leaping ouananiche and the spotted togue became more than mere figments of an overactive imagination.

Later, when old enough to be entrusted with a bicycle I harkened to the call of the breaking ice on nearby Granite Lake, the magic words coming over the telephone as they were excitedly stuttered by my fishing pal Bob Green who lived on the shores of that enchanted lake. With fishing equipment and lunch firmly lashed to the crossbar of my bike, I'd be off before daybreak.

Those were halcyon days as we battled leaping landlocked salmon and plunging lake trout; a couple of hours fishing netting us as many as seven of combined species. We could have easily caught two or three times that many had we wanted to, but both of us had been properly imbued with the seeds of conservation and good sportsmanship by a couple of fathers who loved the sport as much as we did.

On one of those auspicious openings the lake was too rough to fish, so Bob's father suggested the inlet brook at the head of the lake.

I had never fished the brook and my face must have shown my disappointment. Four, five and even six pound ouananiche and togue were not easy to give up for a bit of a blow.

However, I never regretted the decision so wisely made for us. If you have ever fished a small stream rollicking through alternate woodlands of white pines and hardwoods or a judicious mixture of both, with the snow piled up around those noble boles in four-foot drifts, then, you can understand in a measure my enthusiasm, especially when the clear, frigid water is alive with eight and ten-inch brookies; fish so cold and firm as to remind one of prismatically colored

Fishermen are great gadgeteers. Here's a frog container dreamed up from an old nylon or silk lady's stocking. A frog may be extracted without the others getting out; a twist of the "leg" confines them while an occasional dunking keeps them comfortable.

icicles as they were removed from t hook.

Now, then, this apparent envolv ment in reminiscences has not blind me to the original theme. As a matt of fact, the reminiscences are a part it. What were your reactions as y read them? Did they stimulate simil or more properly, corallary memori in you?

Why do fishermen go fishing ev when they know full well that the efforts will avail them little or not ing? There is nothing mysterio about it although wives and ev friends not addicted to the sport a apt to think that those so doing a not altogether right.

To confirmed fishermen fishing never futile. Let me illustrate. La March reports trickled down to that the big redhorse suckers we running in Elk Creek. We picture huge, arm-long fish fresh from t depths of Lake Erie or wherever it that they come from, running up in that favored creek. The reports pe sisted and became increasingly au mented. A week or so after gettir the first report we were told on "goo authority that the fish, i.e., those the sucker clan, were literally jar packing the creek; that the fishing the old railroad trestle was somethir that all sucker fishermen dream abou

Well, Bill Klee, Doc Rogers and could not resist it any longer. We ha to take off and we picked an inord nately appropriate day for it. We toc off in the midst of a howling blizzar Our wives could say nothing. The were too stunned at what they co sidered incomparable foolhardines But our urge could no more be denie than could that of those fish answerir their elemental call.

Long before we got to our destin tion it had quit snowing, but plenty it covered the ground, and it was bi terly cold. At the mouth of Elk Creel a short distance from the town North Girard, three or four-inches snow covered the shingly beach an the immense sandbar through whic the stream meanders. And punctua ing its length at rather frequent inte vals, were huddled, immobile figur which upon closer scrutiny proved t be more or less frozen fishermen.

Doc voiced the disappointment w all felt when he said, "Doggone, thought we'd have the place to ou selves."

However, there was plenty of roo and our disappointment was sho lived. After selecting what Dc termed a "prolific" looking spot, w

d out our equipment, set the rods d then rustled a quantity of fire-ood.

After everything was all set we und seats and proceeded to do what ery single one of our brethren were oing. We alternately froze or asted, depending on which side ced the fire, stoically bore strangling oke and caught nary a fish. How-er, do not misconstrue, we wouldn't ve missed it for anything.

Later that day with scores of others e repeated the performance at the estle Pool. Yes, sir, those suckers d turned the tables, but what of it. Still later, much later, all three of agreed that we actually enjoyed the perience. All of the factors entailed emingly played their parts; the pun-nt smoke, the new snow, the cold, w air were no less important than e principals themselves.

I shall not soon forget my initiatory ip into the so-called musky bowl Wisconsin, the region that produced o world record 'lunge in 1949; Cal hnson's record buster caught in ly being rather quickly supplanted Lou Spray's sixty-nine pound and even ounce monster taken in Octo-r.

With confidence born of having read d heard about the tackle busters liv-g therein, we selected a certain flow-e that is equally famous for its perlative beauty.

On the Manitowish River my first st elicited a strike from a heavy h. It promptly threw the plug and y companion was about to go into a rade when the fish rolled and struck again, hitting the plug before I had a chance to take up the slack line.

I had barely gotten set for the long fight that I anticipated when the fish tore loose. This time there was no fooling, he was gone for keeps.

Well, after George recovered he consoled me with, "Never mind pal, this is only the beginning. We'll hang up at least six of those babes before we're through."

But, as you doubtlessly have guessed, we didn't. Indeed, we didn't catch a game fish in our entire stay of nearly two-weeks. Yet, that trip stands out as one of the best that I've ever taken. We did plenty of fishing in that land which in my opinion actually outdoes the original *Land of the Sky Blue Water*. And it must be admitted that the fish are there. We simply were frowned upon by the Red Gods of Vilas county. On the Q.T., we had to cross the line into Michigan's northern peninsula to get us a mess of speckled trout.

A fisherman is a combination of so many ingredients that it is really difficult to say just what goes into his make-up. There are no half-way or lukewarm anglers, they either go the whole hog or none. And when one does go all out it takes more than just caprices of the elements or the uncertainty of Fate to stop him.

As old Bill Jones used to say, *A man must be born to be a fisherman.* Yes, that's exactly the way he expressed it. I didn't get the implied meaning for a long time. However, now I like to think that Bill meant that it wasn't worthwhile for a man to be born unless be became a fisherman. As far as I'm concerned he had something.

Paradise Season Announced

Pennsylvania's famous "Fisherman's Paradise" located near Bellefonte in Centre County will open for 1950 on Friday, May 19th and extend to July 22nd, both dates inclusive, excepting Sundays. Fishing will begin at 8:00 A.M., and continue until 8:00 P.M., Eastern Standard Time.

There is no special license required, fishermen sixteen years and over must have a resident fisherman's license and must personally register in and out. Anglers may visit the project five times during the season, the catch is unlimited but only one fish may be killed in any single day's visit. The fisherman is restricted to the use of artificial hair or feather flies or lures with barbless hooks or hooks from which the barb has been removed. Spoons, spinners or swivels are prohibited and wading the stream, for any purpose, is not permitted. Fish caught foul must be returned to the water and assistance in hooking or landing fish is not allowed.

Only fish ten inches or longer taken from the large stream may be killed while the size limit on the adjoining ladies stream is seven inches.

The rules and regulations will be prominently posted and each angler will be given a printed card bearing these regulations. Persons apprehended while violating any rules will be banned from the project for the remainder of the season in addition to having their state-wide fishing license revoked.

A fisherman considers his lot a happy one even though he may be loaded down like a pack horse, soaked to the skin, hungry and often fishless.

Industrial Housecleaning

More industries in various sections of the State and including a variety of types have been given permits by the Sanitary Water Board approving plans for waste treatment works and orders requiring the construction of those works by specified dates in advancing the Clean Streams program.

The industries are Elkland Leather Co., Elkland, Tioga Co., tannery, three large lagoons for further settling of solids augmenting the present waste treatment system to provide a higher degree of treatment for the 1,100,000 gallons of wastes daily. The lagoons have just been completed.

P. H. Gladfelter Co., Spring Grove, York Co., pulp and paper manufacturers, two mechanically cleaned settling tanks for the treatment of eight million gallons of waste daily, and eight lagoons for the drying of sludge from those tanks. The system to be in operation on or before June 1. This is an ititial step in compliance with the orders from the Board to provide complete treatment of the wasters.

THREE RULES FOR TROUT FISHING

By TALBOTT DENMEAD

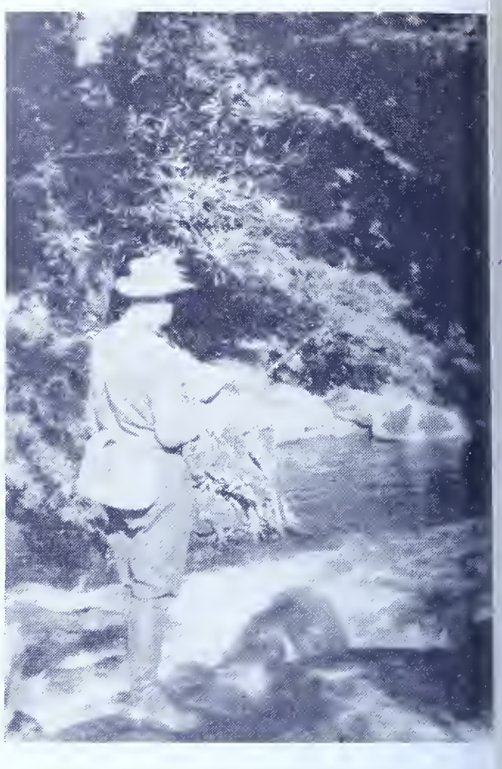
The first and foremost rule for trout anglers to observe is to KEEP OUT OF SIGHT. It is always amusing to me to see a six foot tall man stand on top of a ten foot boulder and waive a fishing rod around, and think the wary trout cannot see him. Of course the trout do and beat it for cover. And at the same time said angler who is as conspicuous as Washington's Monument expects that same blind trout to see his little artificial fly not bigger than a quinine pill. Ridiculous. And that same angler has probaly jumped on that rock and surrounding ground with hobnails in his boots, and by vibration warned the trout of his presence, like the buzz of an electric door bell; so the trout is already on the watch even before the follower of Izaak gets on his pedestal.

The second rule in trout fishing, if the angler wishes to take trout, is to KEEP FURTHER OUT OF SIGHT. Yes. Crawl along until you are behind that big boulder, which in all the pictures, incidentally, is at the head of the pool which the trout are facing, and stay behind it while making the first few casts. It may be unlucky to be behind the 8 ball, but it surely is not unlucky to keep further out of sight in trout fishing. In fact it would be much better if the angler would approach the pool from below, as the trout will not be sighting along his tail for danger but looking, as far as nature and no neck will allow, eyes front. And sneak, don't pound along with heavy steps. shaking the earth.

Now you probably will be more surprised at Rule 3. It is KEEP STILL FURTHER OUT OF SIGHT. I read an article once (I hope it was not in the PENNSYLVANIA ANGLER) that said you should not hide behind a tree—that the trout could not see you if you stood in front of it. Shades of Walton; do you mean to tell we a fish can see through a tree? No. But he can see motion in and around said tree; so when approaching a pool get down on your hands and knees, if you can, and crawl up on the unsuspecting fish.

I recall once upon a time while fishing a lovely Pennsylvania trout stream —upstream—I came to a beaver dam. This stream by the way had great hemlocks and other flora along its banks, lots of rhodendrum near by, all of which stopped erosion (a form of pollution), kept the water clear, kept the temperature down, and provided shade and shadows; and the stream contained a lot of nice trout. But "progress" came along, cut down the beautiful hemlocks and destroyed all the vegetation along the banks, let the merry sunshine in, and ruined the fishing.

But as I was saying, I approached the beaver dam from below. My head was not much higher than the breast of the dam; and as I peeped over I saw three beautiful brookies, easily distinguished as such by the white edges on their fins, tails fanning, and



totally unconscious of my presence If I had approached from any other angle I would never have seen them in that shoal water. But as I got myself ready for a cast up stream and above them their suspicions were aroused; possibly they saw the shadow of my rod, but they really did not know it was I, the bum trout fisherman; but some fifth, or is it sixth sense warned them something was down below, and to be on the safe side they slowly but steadily started to move up stream; they were not alarmed, just playing safe; a movement, a shadow or what not telegraphed the presence of what might prove dangerous. I might have moved my head too quickly or raised my arm to make the cast, or jarred a stick in the dam.

If I had followed my own Third Rule, and kept still further out of sight, I might have gotten that dry fly above them, with leader off to one side, and landed at least one of those beauties; and the ending of this tale would have been different.

Davy Crockett said "Be sure you are right, then go ahead." I'm not Davy but take my word for it, and follow these three rules religiously—if you want to catch trout. I know for I hid behind a big boulder once which was at the bottom of the pool and saw three brown trout breaking in the pool above, within long casting distance. I kept out of sight behind that rock, in fact I never gave the fish a chance to see me; and I got all three of them on dry flies—one at a time of course, with a rest period.

Get off that pedestal, and try out these rules some time.

This approach is better—but still not low enough.

FISHING IS FUN, IT ALL DEPENDS!

By PAUL BROWN

Many fellows who go fishing agree at fishing is fun—that depends on e circumstances, whether it's you or e other fellow who received the misrtune of this tough, hard job of fishg. I hope that the following hasn't ppened to you or your buddy. Some these paragraphs are a laugh—hers not so funny—Like I said, it pends.

Do you remember when you first arned to plug cast, how awkard it emed,—those backlashes—your pal instructor telling you no not that ay—not that way—this is the way? ell, I had one of these "first-timers" t to show him the right way and it emed he had a very serious fault in ways stepping ahead one step when wanted to cast—he still forgot two urs later, so to break this habit I ed his two feet together (his instructions were on land) to prevent at one step. He fell several times, cky it wasn't in the lake. Finally, he d a fair job of casting and he felt at he could throw those plugs around d really nail the fish. Sunday was couple days away, so we made arngements to go up fishing on that y. We arrived around 5:00 A. M., e secured our boat and out we went r those bass and pickerel on Blue idge Lake. (Incidentally, Charlie d Helen are wonderful hosts.) verything went fine for an hour, then happened!—You guessed it—he ort about stepping ahead in a boat—Man overboard" would be the proper ll right then—fortunately the water the East end of the lake wasn't ep—four feet to be exact. His hat as on, also his glasses. In his hand as his rod. I said, "I told you about at stepping in a boat while standing o." His answer gave me a laugh—aybe you too. "Hell!" he said, "can't guy go down and see where those ankety, blank fish are." The water as cold, but like I said Charlie and elen are good hosts. They fixed my end up with dry clothes, a good eakfast for both and a couple of igs (water, oh yea!) and back we ent. To this day my companion on't stand up in a boat. Can't blame m either, can you?

The following happened over 15 ars ago but it's still fresh in my ind. In this case a liar was caught his own lie. My hunting buddy, a llow who is a grand friend and ortsman and who taught me how to h and hunt the right way, decided to to Lake Hoptacong for pickerel and ss (Decker over there, incidentally who has good boats and bait was the originator of the Globe Bait, those days it was Decker's Remember?) One of our friends wanted to go along for the ride, so we went. This fellow doesn't fish—he hunts tho'—game, no! —you guess what—My buddy and I had been out for a couple hours trolling with "herring" some nice fish were in the live box and we decided we were hungry—so we came in for some sandwiches and coffee. Our friend wanted to go along this time just "for the ride." We asked if he could swim, that was in case the lake got real rough and we might upset. His reply being affirmative we pushed off. Near noon we decided to change rower, I had been handling the oars for almost six hours, my buddy would now row for the rest of the day. Since our passenger was around 190 pounds and he was in the bow we would put him astern. In the exchange of seats he lost his balance and over he went—Gentlemen, Lake Hopatcong is deep and no fooling. When we got hold of this fellow his first cry was—"Help—I can't swim!" At that he damned near upset the boat. We took him to the dock to let him get out. As God is my judge—this party wouldn't get off at the dock—He made us beach the boat and then he proceeded to crawl out of the boat on his hands and knees. Here is a case where a fisherman should not lie. This could have been more serious. Either learn to swim or wear a life jacket.

Have you ever met a kill joy on one of your trips afield—possibly you have—this happened on a trip to Dingman Ferry for bass in the Delaware. The original party was of three—I knew of a chap from Bethlehem (WPA days) that had asked if he could go along. After a lot of calling of the other two, it was O.K. We picked him up on that "Share the Ride" or take a boy fishing rule. To our regret, everything on the way up was lovely until we burnt out two bearings. We had the oil changed, the attendant hadn't put the plug in tight. It came out, so there we were—Dingman five miles away—nearest farm two miles. The owner of the car and I decided to go to the farm to call home and have one of his friends who has a tow car tow us home also get some lunch for the gang. We expected to eat at Dingman (The hotel is gone). The farmer had nothing for us to eat, but we used his phone. Now here's the payoff—This guy, between

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BUCK TAILS OF KNOX BUILD OWN TANK TRUCK

Here is an illustration of the transport truck built by the members of the Buck Tails of Knox, Pa. and which is used in the program to assist in stocking fish. The tank is 6 ft. long, 2 ft. wide and 2 ft. in depth with a capacity of 175 gallons. Built of 20 guage galvanized steel and is divided into 3 compartments and is powered by a 7/8 H. P. Briggs and Stratton Motor complete with water pump.

Those in the picture reading from left to right are: Link Cotherman, Earl Shay, Al Switzer, Al King, Chuck Hanst, Reeves Duff and Wayne Wesner. The photo was made by Lewis Studios of Knox, Pa.

MENU FOR A FISHERMAN

By DICK FORTNE

This ISN'T an article on how to catch fish. It's about the far easier, though no less pleasant, matter of eating them. It's inspired by twelve consecutive daily luncheons during a vacation of fishing for bass, walleyed pike, and great northern pike on the French River and its tributaries, in Northern Ontario.

And the real credit for the information it contains goes to a sandy-haired smiling young guide named Gussie Hass.

The shore dinner is a standard part of a fishing vacation. And there are all kinds of shore dinners. But Gussie's were something extra special, and yet they were so fundamentally simple and easy to prepare that they can be created on the shores of a stream or lake in Pennsylvania just as easily as in the northern wildness.

A word of warning is proper at the beginning. Once you have experienced a fishing luncheon a la Gussie Hass you'll never again be satisfied with dried-out sandwiches and thermos bottle coffee or with a so-called dinner served at a wayside restaurant.

This additional point should be made. Time out in the middle of a day of fishing for a hot and tasty luncheon not only fortifies the body for the experiences that lie ahead, but it also settles jumpy nerves, cools off hot tempers, and gives a man the general feeling that all is well with the world, even the finny world that abides in our waters.

Let us begin at the beginning.

The whole shore dinner can be prepared with one exception—the main dish—before the fishing trip even begins.

A good, roomy basket will hold it all and will not take up too much space in the car.

Here is what should be loaded in advance!

Five or six-fair-sized potatoes that have been boiled with the jackets on, enough for three men.

The same number of bread and butter sandwiches.

Ten or twelve slices of lean bacon.

Half a dozen fresh eggs.

Some fresh or canned fruit.

Cookies or cake, if dessert is desired.

A pint jar of lard or some other cooking compound.

Salt, pepper, catsup, and sugar.

A glass jar of flour or cracker crumbs.

A quantity of either tea or coffee, and canned milk to be used with it.

Table service—plates, knives, forks, and spoons—should be included for each member of the party.

Cooking utensils can be reduced to the simple kit of two frying pans, a pot for making coffee or tea, a sharp hunting knife, and a can opener.

That leaves only one staple of the dinner—the fish—to be caught when the party reaches the scene of the fishing trip. (And if you can't catch enough fish, there still is enough food in the basket to provide a tasty meal).

When it is time to eat, the party cook should select a spot where there is no danger that his fire will spread. A big flat rock is excellent. The fireplace should be built first. This consists simply of two parallel rows of rocks, the top about 10 or 12 inches above the ground, the sides of the fireplace being close enough together that the frying pans can rest between them without coming in contact with the fire.

Some paper and bark and small wood will make it easy to get the fire started—but a roaring blaze should be avoided. A good bed of hot coals will cook the meal much faster than leaping flames will.

Another member of the party can prepare the fish while the fire is being started. Small fish may be skinned; filets can be cut from larger ones, such as bass and pike.

In preparation of the fish we'll share one of Gussie's secrets with you. It is this: Salt and pepper the fish before rolling it in the flour or cracker crumbs. If the flour is applied firs Gussie says, the seasoning never ge into the flesh of the fish. What more, Gussie applies lots of pepper- enough so that it is visible on the mea

There is still another preliminar job to be done. The jackets should b removed from the boiled potatoes ar they should be cut into slices abo a quarter of an inch thick. Don't cu them into chunks. (We have a re surprise in store for you later on th matter).

Now the meal is ready for cookin

In one frying pan put a lot of lar and dump the sliced potatoes into th hot grease.

You see, we are going to hav French fried potatoes for lunch!

In another pan put just a tin amount of lard and cook the slice bacon until it is the degree of crisp ness that is desired.

Also, fill the coffee can with clea cold water and tuck it into a spar corner on the coals of the cooking fir

When the potatoes have been frie to a golden brown, remove them fro the pan and put them on a plate c a small pan as close to the fire as pos sible to keep them hot. Do the sam with the bacon.

Now into the pan in which th bacon has been fried put the fish, an cook them until they, also, are a golde brown.

Gussie fillets the fish, laying the white meat of the walleyed pike on the end of his canoe paddle. A thick fillet goes into the frying pan.

The potatoes have begun to French fry, so Gussie heats another frying pan in which he will ook savory bacon and freshly caught fish.

When water in the coffee pot boils, mp a handful of coffee or tea into e water and set it off the fire. If ffee is being brewed, a cup of cold ter poured into the pot will settle e grounds. Tea leaves will gradually tle to the bottom.

Now it's time to load the plates, ing each angler his share of the bacon, French fried potatoes, and fish —and while this first course is being eaten some eggs may be fried in the pan in which the potatoes were prepared, just in case somebody has an extra big appetite.

Coffee, fruit, and dessert will round out the meal.

Gussie finished his culinary chore by cleaning the frying pans, the coffee pot, and the plates with chunks of moss lifted from rocks. You, of course, can just pile the dirty dishes back into the basket and take them home for the Mrs. to wash and put away.

We told Gussie we were going to write an article on shore dinners when we got back home, and he quickly responded:

"That's fine, but make sure of one thing.

"Tell the fellows to be sure that the camp fire is out before they go back to their fishing."

Gussie accomplished that — and washed the coffee pot at the same time —by carrying pails of water and dumping it on the fire until it was drenched and drowned.

He hinted that the act not only prevented fires—it helped him to begin digesting the food he had just eaten!

Salt and pepper—enough to be visible on the meat—are applied before the fish is rolled in lour prior to frying.

"JUST ONE MANS OPINION"

By Vince Cosmark

On days when the sun shines bright and a warm breeze is blowing, how I long to be back in the years gone by. It all started in a little place called YOUNT'S Station, in good old Bedford Co. I can remember as if it was yesterday, the happy times I had there. Getting up at 8 or there abouts, getting my can of baits and my rod from our old smoke house, and starting up the road. Imlertown run was my favorite, but the old bull that was in the pasture, the creek run thru was not. Many a time I just made it to the fence, and almost all the time the fish were just starting to bite. After fishing a few hours and almost always catching a few, rock bass, chubs, or even a sucker. But always catching something. My dad had a job of measuring the water, at the old YOUNT'S bridge, and I had to tag along as I did many times before. This day we saw the water churning near the bank, so we leaned over the bridge to see what was up. There maybe ten or fifteen feet from shore, was a mamma and papa catfish guarding the nest of young. About a foot away was a pesky water turtle, he would pull his head in and swim right into the nest of young catfish, and grab a mouthful, then retreat, we watched while he made another attack, picking up a stone, we missed him but scared him away. There the turtle was eating the young, and the big fish were trying to get him away, but being unable to do anything and swimming helplessly by. The turtle ate at least 50 or 75 of those fish. Well let me tell you that turtle and all others just made me, my friends, and others, an enemy. That my fellow fisherman is just one of the reasons we are not catching that occasional catfish we "usta catch." Now a big turtle would have caught a good sized minnow and had enough, while the little pest destroyed 50 times that many. If we were rid of these pests I think that our fishing would gradually come back to its own, in years to come. But fellows it's like the title states, it's "just one mans opinion."

Streamer and Fly

By GEORGE W. CONWAY, Jr.

Ten or fifteen years ago, a fly fisherman was something of a novelty on the average "back yard" trout stream. I remember watching the first I'd ever seen with mingled curiosity and condescension as he fished a fair-sized stream only a few miles from a city of fifty thousand. I knew the stream very well, and took enough trout from it on minnows and worms to avoid the usual jibes about fisherman's luck.

Today, there are at least as many fly fishermen on that stream as worm and minnow addicts, and so many of both that it is no longer possible to drift along, unmindful of missed strikes and rises because there will be another in the next pool. Now, you are fortunate to get a pool to yourself for a little while, and it isn't possible to cast over a trout that hasn't looked at an assortment of live and artificial bait every day of the season.

The logical thing to do under these conditions is to look for more distant waters, but if you know the stream, every inch of it, so intimately that it is an old friend, then you'll do as I did and contine to fish it occasionally. In so doing you will pick up some tricks that will coax even these hard-fished-for trout to strike often enough to make it interesting. A couple that have worked for me may work for you. Maybe you have tried them, maybe you use them now, but if not, they may be worth a whirl.

One stunt that works when the fishing is slack requires a leader with a six or eight inch tip for a dropper fly about eighteen inches above the end. An ordinary, seven-and-a-half foot tapered leader can be fixed up for this purpose if you don't ordinarily tie your own leaders. Cut it about a foot and a half from the end, then retie allowing the long end of the leader to stick out the six or eight inches you want for the dropper. A blood, or barrel, knot is ideal for this.

Tie any wet fly you like on the dropper, and on the end fasten a streamer or bucktail that you have confidence in. (That is important!) My own preference for this combination is a Mickey Finn streamer and a wet fly with a brown hackle and peacock herl body.

Fished like a streamer, or a little slower, this combination seems to interest trout. Maybe they think it is a minnow chasing some type of aquatic bug, who knows? Regardless of the "whys," it works, some of the strikes coming on the streamer, some on the wet fly.

Last season I spotted a big trout in a stretch of slack water, but I scared him before I had a chance to try for him. The following week, however, I edged within casting distance very slowly and carefully, then dropped the fly and streamer combination in the deep water just off the bank on the far side of the stream. The water was clear, so I got a treat that I'll never forget. On that first cast, the big fellow came up out of the blue depths, followed the erratically moving streamer a bit, then nailed the wet fly with a rush.

I got him. How big? If I were to give dimensions, you would mentally divide by two, sniff, and say, "That wasn't so big, now that one that I . . ." So, I'll just say he was a good trout for any civilized stream and let it go at that.

Another trick, an old one, that take a little patience, is the one of changing flies. If the trout aren't connecting as they should, try fishing with a streamer that you can see very well in the water, and watch it. I mean that literally, watch the fly. Frequently a trout will flash under your streamer, looking it over, and you'll never know it if your eye isn't on the fly.

When you see the flash of an interested fish, restrain the natural impulse to cast again and change flies instead. Try the same spot again with either an entirely different streamer, or a w fly. This frequently works for me, us ally the best results are with a small streamer, or wet fly. Often you c raise the same fish several times succession on different flies, and final take him. The secret, if there is or seems to be in not casting repeated with the same fly after he has look at it and then refused. (Though, course, once in a while they will tal the same fly again, though not as oft as a different one.)

If this sounds unorthodox, remer ber we're fishing a stream where yc almost have to line up and wait yo turn to fish the better spots. The trout aren't frightened as easily those on a mountain brook which w stay down for quite a while once th are alarmed.

This system fits in well with spi ning a minnow, for when you see tl flash of a fish looking the minnow ove you will often net him if you slip streamer on the end of your leader ar try it in the same place. A friend mine an unusually good fisherman, h caught a lot of good trout this wa While he catches trout on the minno of course, he relies on it also as a fis finder, switching to a streamer maribou when one looks at the mi now, but doesn't take.

No method will always work, n fisherman always catches trout, bu these variations in standard procedu will work on hard fished streams least part of the time when ordinar methods aren't producing. Try 'e for yourself!

Here Harold W. Fetrow proudly displays the mammoth brown trout measuring 31¾" and weighing 10¼ lbs. which captured top flight honors in the Hunters' and Anglers' Big Fish Contest. On his right is Lynn Williams while on the left is Cary A. Steffen.

Drops of Death

"Reports of heavy mortality of birds, sh, frogs, crabs and other marine d fresh water life, allegedly as a re-lt of insecticide dusts and sprays, s led the National Audubon Society investigate the situation," says John . Baker, president. His complete atement follows:

"Far too little attention has been id to repeated warnings by the U. S. sh & Wildlife Service and the De-rtment of Agriculture on the danger employing certain new insecticides heavy concentrations in outdoor eas. With the expanding use of such isons, increasingly serious damage n be expected unless great care is ken in dusting and spraying. These w insecticides include DDT, DDD, EPP and chlorinated camphene.

"These toxic agents in heavy ap-ications not only kill birds and fish, t lead to heavy destruction of bees d other insects valued by farmers d fruit-growers. Land fertility may so be affected. It concerns human elfare as well as wildlife.

"Surveys and experiments con-cted by the U. S. Fish & Wildlife ervice have demonstrated how and in hat concentrations DDT may safely used. Other organics have not yet en fully tested. Some of them are ore deadly than DDT to warm-ooded animals. Wildlife mortality s been cited by scores of observers ter checking the results of local in-cticide spraying and dusting. Such idence confirms the hazards of enching outdoor areas with the new secticides.

"Among specific examples of de-ruction of wildlife was a reduction of % or more in the bird population six days in a test plot in Texas, sted with 4.36 pounds of DDT to the re. A reduction of 65% took place six days among common bird ecies in a Maryland woodland tract, llowing aerial treatment with a simi-r amount. Quail fed on diets con-ining low percentages of various new secticides did not begin to succumb til the eighth day. Deaths con-ued among them up to the 34th day the experiment.

"Heavy kills of fish and crabs oc-rred after aerial applications where little as ½ pound of DDT to the acre water was employed, the poison be-g fatal to aquatic life in much lower ncentrations than to land animals.

"Where lighter woodland applica-ns of DDT than 2 pounds per acre ve been used, little or no animal rtality has apparently resulted. en in such cases, however, the destruction of all types of insects by this toxic agent has occasionally been followed by aphid or mite outbreaks resulting from the loss of natural control by other insects.

"A great deal more research is clearly needed to establish the value and limitations of organic insecticides, and their safe employment out of doors. There is no question but that certain crops have benefited by the proper use of these poisons, but every precaution should be taken in their application at this early stage of their development.

"The peril of the new insecticides to birds lies in the fact that these organic poisons act slowly. Some of them have residual, sumulative effects. Birds usually devour only living insects, but poison and poison-laden insects which have not yet succumbed can provide a fatal diet for adult birds and their young. A nest brought to the Audubon Society's office contained four dead nestling robins, surrounded by dead carrion beetles which had in turn been poisoned.

"Adult birds may fly many miles from a sprayed area before they are seized by the convulsions which precede death from DDT. It should also be borne in mind that insectivorous birds avoid or abandon any territory in which insect life has been practically exterminated. This explains the disappearance of birds from many areas subjected to repeated heavy spraying. Practically all our land birds are insectivorous in the nesting season.

"The opinions of many qualified officials who have generously cooperated in our survey emphasize that rigorous measures should be taken by farmers, municipal authorities, golf-course officials and other private property owners to avoid damage from using excessive amounts of these poisons. The experience of the U. S. Fish & Wildlife Service in treating many types of land should serve as a dependable guide to safe, effective concentrations for various purposes. Most important of its findings is the conclusion that such poisons should be used only when and where they are needed, and in the minimum quantities necessary to control the specific insect target.

"With regard to DDT, the U. S. Fish & Wildlife Service recommends the use of less than ⅓ pound per acre over water or marsh, in oil solution, not in dust, to avoid kills of fish, crabs and crayfish. Less than 2 pounds of DDT per acre should be used even in forest areas, to prevent death or injury to birds, frogs and mammals. On turf and lawns heavily infested by Japanese beetles, effective larva control can only be carried out by concentrations as high as 20 or 25 pounds of actual DDT per acre. This can be expected to take a moderate to severe toll of bird life.

"DDT should be applied in early spring for early insects and not again until late July or August, after the bird-nesting period, to control late-appearing insects. The extreme sensitivity of fish and crabs to this poison makes its direct application inadvisable on streams, lakes and coastal bays where injury would be inflicted on commercial or sport fishing, and on ducks, shorebirds and other species which feed on aquatic animals.

"The National Audubon Society would welcome specific reports on insecticide experience from entomologists and other qualified individuals or organizations. Such observers should carefully determine the concentrations and amounts employed, as well as the specific mortality or reduction in bird or other animal population that may result in given area."

Johnny Lon age 7 of Wampum and his first trout which he caught in Slippery Rock Creek. Johnny is the son of Stanley Lon of Wampum.

We must remember above all that nature has her own set of laws. These laws are generous, but they do not allow for any greed or waste of natural resources. People who break these laws will soon have to do without rich soil, pure water, minerals, forests and wildlife. The good conservationist is always trying to understand nature's laws better so that he can preserve the resources of the earth for himself and for his children.

WHAT WOULD WE DO WITHOUT WATER?

Are the Books in Balance for Pennsylvania's Water Account?

By E. S. McCAWLEY

Deputy Secretary, Department of Forests and Waters

Front page news stories, as 1949 drew to a close, high lighted dramatically the alarming water shortage that has confronted metropolitan New York and in a lesser, but no less alarming degree, other communities in the Middle Atlantic States.

Aren't we taking water for granted and because of its indestructibility as an element, giving little thought to its conservation for our use? So—

Under a date line of January 4, 1950, we read that the President of the United States appointed a Temporary Water Resources Policy Commission headed by a prominent engineer. This implements one of the recommendations of the Hoover Commission and evidences that at top policy level in the Federal Government an audit is to be made of our water resources . . .

Iron, coal and a host of other basic elements which we value as indispensible to our way of life are things that primitive man was able to get along without for untold years, but his existence on this planet would have been impossible without water which, carried locked within it those elements essential to life itself. Moreover, water has the unique advantage over other natural resources in that it is not destroyed by use.

Store it behind a dam in the mountains and it may be used to develop power to light a city, to irrigate farm land, to supply water for domestic and industrial needs and finally on its way to the sea, for inland navigation. In its course from the headwaters, this water may have been converted to steam and escaped as vapor to the air, it may have been used for human consumption and been returned to the stream after purification, or it may have been frozen into ice. Nevertheless, through all its various changes, through all of its transformation—be it a block of ice or a boiler full of super heated steam—it is still a part of a great system which we know as the Hydrologic Cycle.

Now, "Hydrologic Cycle" is a five dollar word for "water cycle." Water is virtually indestructible and is always going somewhere. The trick of water conservation is to have water where it is needed and when it is wanted. Untold billions of gallons of water flooding the Mississippi Valley does not help the empty reservoirs of New York State.

To explain the water cycle in its simplest terms, water is constantly being evaporated by solar energy from the surface of the earth, chiefly from the water surfaces. The earth's atmosphere has the property of absorbing moisture like a sponge and in the form of clouds and vapor the water saturated air travels over the land until under the influence of the correct combination of temperature and barometric pressure it is condensed and falls to the earth as rain, snow, or sleet. It may run off directly into rivulets and streams thence back into the ocean, it may be used and evaporated again by plants or animals or it may seep down deep into the earth to replenish the natural ground-water supply. (See graph). However it reaches the land and no matter what transformation it may pass through, eventually it gets back to the sea from whence it came. A water particle may go through the entire long cycle or only through a part of it. It can e trapped and retained somewhere al g the line for an indefinite time or t could be inefficiently wasted at so e other point, but the sum total rema s constant and the system remains n balance.

Water evaporated from the surf e of the earth or ocean by solar ene y is the largest source of moisture in t e atmosphere.

Water absorbed by growing plants s returned to the atmosphere by a co plicated process called transpirat n which is the plant equivalent of r piration and perspiration in man a l animals.

Expressed in percentages, of t total precipitation about 25% runs f immediately into our streams a l lakes; 20% is evaporated directly the atmosphere, 25% is absorbed a l is available to plants or animals a l 30% percolates to the undergrou water table.

There are many factors which alt these approximations. Steep slop from which vegetation have been r moved by man or destroyed by fi lack retentive powers and accelera the run off. Man's cities and oth structures have in many cases acce

Twelve Grand Sportsmen Honored at Banquet

In the photo appear reading left to right: G. Dingle, C. McCauley, P. Peterson, H. Lear, Al Hibbard, and J. Scharf. Six of the men not present are: C. Baker, T. Degman, G. Ferrone, H. Keighley, C. Rietz and W. Vale.

The PENNSYLVANIA ANGLER salutes twelve grand men of the outdoors who were recently feted to a sumptuous venison dinner by the Blawnox Sportsmen Club of Allegheny County. That the affair was a grand success is but a foregone conclusion. The twelve men all members of the club for the past ten years or more and having reached the age of 65 were made life members of this very active organization and in addition t maintaining fine club rooms also maintai an up-to-date camp along the Alleghen River.

By official action of the organization, W. C Troeger President, presented each of th honorary members with a gold life member ship card.

ed run off, the simplest examples ing the gutters of a great city fol- ving a heavy shower.

To understand all of the details of ter behavior and the whys of the ter cycle would entail a knowledge meteorology and the scientific back- ound of weather, a working knowl- ge of topography, geology, geogra- y, soil physics, not to mention hy- ology and hydraulics. However, it es not necessitate a post-graduate gree in civil engineering to under- nd that one of our greatest civic oblems today is to secure an ade- ate supply of pure water and to ovide the means for purification and sposal of industrial and municipal aste water.

In Pennsylvania, the administration Governor James H. Duff has been ally concerned with water prob- ns. Clean pure water where we nt it and when we want it is the y to health and continued industrial pansion. Continued debasement of eams and rivers by municipal and dustrial pollution is the incipient ncer of industrial dissolution and st be radically controlled if our con- ued economic wellbeing is not to ffer.

By the same token, unwise forest actices and the continued lack of und soil conservation methods re- lts in disaster from floods. Not that ere have not always been floods, cause there have, but civilization in wake has brought about conditions ich foster bigger and better floods th larger and larger damage costs. und flood control practices can pro- de for headwater storage and flood lief.

Then too there can be just so much ater pumped from the underground ater supply in any given area. When e "take out" exceeds nature's ability "put in," that community is riding r a fall, and unless reasonable con- ols are exercised to prevent this uation, the community will face the w and painful death that only an cute water shortage can bring.

The Auditors are at work on Penn- lvania's water books. Auditor-in- ief has been our Governor who has alized the vital importance of pre- rving through the joint agency of s Departments of Forests and Waters d his Department of Health the mmonwealth's water assets and re- aiming her water liabilities from e red ink side of the ledger.

Stream clearance, stream regenera- n, flood control, construction of im- unding dams for health, recreation d the storage of water resources, ese have been the credits which the esent administration is setting up the books.

The books are not yet in balance but a tremendous start has been made. The regeneration of the Schuylkill River by the Water and Power Resources Board of this Department will stand as a miracle of accomplishment. A liability converted into an asset in spite of many Doubting Thomases.

The Sanitary Water Board of the Department of Health has implemented the Clean Stream Law on the Schuylkill and is now going forward to secure compliance with its orders to clean up the Clarion, the Allegheny and the Monongahela. Gargantuan tasks, these, but, forcefully administered, capable of accomplishment.

For the future, common sense dictates that we continue to add to our water assets and seek by every means to reduce our water liabilities. This can be no hit and run program, it entails a vision of the future and the courage to pursue a program of long range planning that we may not pass on a heritage of desolation to the future generations.

Courtesy—"Pennsylvania Forests and Waters"

Hunters' & Anglers' Make Awards in Fish Contest

Here are the winners of special awards in the Hunters' and Anglers' Harrisburg Big Fish Contest. Kneeling left is Lynn Williams, kneeling right is Cary Steffen. In the first row seated and reading left to right are: C. F. Sheesley, Leroy Quigley, Harold W. Fetrow, B. C. McConnell, Harry Bixler and C. M. Bretz. Standing left to right are: Dr. Paul Herr, Cloyd W. Loper, H. E. Steffen, W. J. Manning, Kenneth Myers, C. B. Martin, John Gerald and C. Ross Crum, Jr. Winners not on the picture are Steve Petroff and Mrs. Dorothy Himes. Second prize or runner-ups not on the picture are Mrs. Richard Gise, Raymond Robinson and William N. Ludwig.

The Hunters' and Anglers' Association of Harrisburg in completing its 1949 Big Fish Contest held a banner meeting recently at which time plaques and framed certificates of award were bestowed upon the winners in the various classifications. The prizes were awarded to the following:

First Prizes

Brook trout, 14½ in.—C. F. Sheesley
Brown trout, 22 in.—Leroy Quigley
Rainbow trout, 21¼ in.—Steve Petroff
Smallmouth base, 22¼ in., 4¾ lbs.—B. C. McConnell
Walleyed pike, 28 in.—Dr. Paul S. Herr
Pike, 24¾ in.—Harry Bixler
Chain pickerel, 23½ in.—C. M. Bretz
Catfish, 32 in.—C. Ross Crum, Jr.
Rock bass, 14¼ in.—Lynn Williams
Fallfish, 17 in.—Cloyd W. Loper
Sucker, 21 in.—Mrs. Dorothy Himes
Sunfish, 8 in.—Cary A. Steffen

Second Prizes

Brook trout, 14¼ in.—John Gerald
Brown trout, 20½ in.—Mrs. Richard Gise
Rainbow trout, 20 in.—Raymond Robinson
Smallmouth bass, 22 in.—C. B. Martin
Walleyed pike, 27⅝ in.—W. J. Manning
Pike, 24½ in.—William N. Ludwig
Catfish, 28 in.—Kenneth Meyers
Rock bass, 10¾ in.—Harry Steffen

Special Trophy

Brown trout, 31¾ inches, 10¼ pounds—Harold W. Fetrow

The 1949 contest was marked by the entry of a record breaking trout, a brownie measuring 31¾" long and weighing 10¼ lbs. and was caught by Harold W. Fetrow of Mechanicsburg R. D. No. 4. This record breaking catch was entered in the early weeks of the contest and because of its unusual size it was placed in a special classification so as not to stifle competitors in the brown trout division. Under that arrangement another large brownie the 22 incher entered by Leroy Quigley took first place in the regular brown trout class. As a reward Fetrow received a two-piece fly rod as a special contest prize for his entry.

Much enthusiasm attended the contest and the committee headed up by John Bistline expressed their delight in that they considered it the best ever conducted.

TACKLE TOPICS

Accuracy Casting With Spinning Tackle

By CLARE BRYAN

Anglers throughout America have read and heard much about spinning as a new method of taking game fish. The story has been told many times over. Yet practically nothing has been said on the subject of accuracy casting. Fishermen in the know, well realize the value of placing a lure where the fish should be. Whether we are bait casting or spinning, a well placed lure will be far more productive. Just casting haphazard into open water will only get the stray ones. Therefore, to get the most from this fascinating method of fishing, we must make of ourselves, a precision robot.

Properly balanced tackle plays a very important part in good casting. It costs no more than tackle completely out of balance. In fact, balanced tackle costs much less, because there is no need for experimenting. Once your equipment is well fitted, there is nothing more to spinning than a little practice. While it takes very little practice before one is able to cast a spinning lure considerable distance, it does take time to perfect bull's eye accuracy.

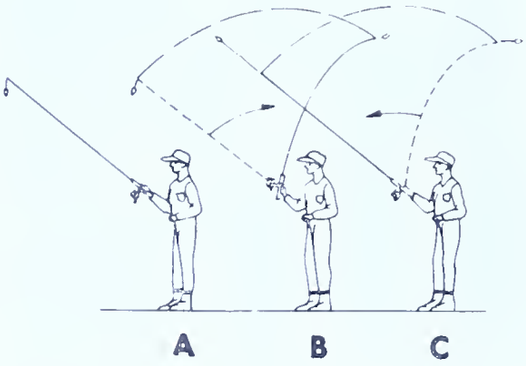
Pre-War Rods and Methods Outdated

Following the late war, many manufacturers jumped into making spinning rods from European samples, which were already on the way out. Writers on the subject also accepted European methods of casting at full value. Very little development work was done because tackle shelves were empty and fishermen by the millions were clammering for new tackle. Now that the honeymoon is over, competition is so keen, every manufacturer is on the alert to produce ideal equipment. Research is now considered a must by all who expect to weather the storm. Fishermen who buy spinning equipment today will without a doubt, receive full value.

In the past most writers on the subject of spinning were inclined to accept a rod with a soft butt and a stiff tip as tops. The standard European length of seven feet was accepted as a matter of fact. Both action and length were discarded by experts in England and on the Continent before we were well under way. The English and Europeans have been using longer rods than our own for all types of fishing. Therefore, when the spinning method of casting was first developed over there, it was only natural that rods for spinning would also be longer than necessary.

Airex Leads With Latest Models

The first American manufacturer to consider the shorter rods in volume is the Airex Corporation, one of the majors in the spinning industry. During the past year I have had the pleasure of collaborating with the Airex research engineers in the development of what we believe to be the finest spinning rod made today. The length has been cut to six feet and the taper is progressive, which I personally believe to be the ultimate in a good rod. From my own experience, rods for all phases of casting should have progressive tapers. Whether we are bait, fly or spin casting, we can do a better job with a rod having power in the



butt transmitted into speed at the tip. That is what we get with the new six foot model. No longer is there a need for a long swing, a mere flip of the rod tip being ample for a 100 foot cast.

The new length is much less tiring because of the shorter leverage. It is also far more accurate than rods of greater length. Skish casters who are deeply interested in better casting have been quick to accept the new rod because very little elevation is needed for any target within eighty feet. Bull's eye casting pays off in fishing as well as in tournament casting. That thirty inch diameter target used by Skishermen is none too small when developing good casting for lake and stream.

Here-to-fore spinning has been considered a method in between bait and fly casting. Today, it is an accepted method for all weights of lures from the light trout sizes to the heavy salt water baits. With the coming of the six foot rods, only two sizes are needed for all lures up to 5/8 of an ounce. The new light action model will han lures from 1/8 to 3/8 of an ounce. T medium action will take 3/8 to 5 which includes practically all of present day bass lures. Either rod v be found ideal of accuracy. All re of the Airex type will cast well on new rods.

Line size is very important wh balancing a spinning outfit. For b results, use the smallest line practi for your particular fishing. A fo pound nylon monofilament line ample for general use with light lur For lures of 1/2 to 5/8 ounce, it best to use six pound monofilame The heavy lures will cast better w a six pound line than with a four. T lighter line having less drag does handle heavy lures properly. As bait casting, there must be a slig pull, otherwise the lure is apt tumble during the cast. The six pou line gives the proper pull for the hea lures, while the four pound line do equally well with the lighter weigh That slight pull from the reel kee the bait straightened out as a tail b ances a kite.

Spin fishermen wishing to practi indoors on a floor during the wint months will do better with a braid line in the same test recommended f monofilament. Due to the stiffness monofilament, it is a bit springy wh there is insufficient drag to spool properly. Either run the line betwe the thumb and fore finger during t retrieve or use a small bag of shot sand for a casting weight. Whi braided line will not spool tightly wit out tension or drag, it will spool son what better when cast on a smoo floor such as we find in a gymnasiu When actually fishing, I much pref nylon monofilament to any type braided line.

Proper Control of the Reel

Unlike bait casting, which requir a delicate thumb for good control the reel, accuracy spinning requires delicate index finger. Several metho are publicized for controlling the re during the cast, but there is only on which will permit bull's eye accurac This method requires full contr through the tip of the fore finger o the edge of the spool. The photo be low illustrates the grip and the pos tion of the finger.

To make a delicate release of th line following the forward stroke, th index finger should be moved to th right about one-half inch off the spoo Learn to hold the finger straight unti the cast is completed. By doing s your finger will be in a position to re tard the cast or stop it completely To retard the cast, merely swing th finger close to the spool. The whirlin

s of line hitting the finger tip will ard the cast considerably.

A slow level cast can be made when trolling the reel as shown. Where-all other methods give a definite ease, and no definite release is ler full control. Those gripping the e against the rod during the cast I invariably get a slight jerk at the ease. This slight jerk can be felt ough the entire rod, which is harm- to good casting. With a delicate ease of the straight finger, the lure l float away from the rod tip with sign of vibration or buckle in the . The cast is smoother and under plete control.

erhead Stroke Is Best For Accuracy

nasmuch as spinning is quite new most fishermen in America, the jority of anglers buying spinning ipment will learn the overhead de- ry first. They are not so inclined use all sorts of casts as they are h bait casting tackle. Since spinning a little mystery connected with it, st casters will follow the instruc- s given in printed form. Practically instructions thus far have referred the overhead cast as being proper. s has done much to start all fisher- n on the road to successful spinning, ause there are no bad habits to ak.

Only by learning what we might call chanical stroke and timing will any n caster develop a good accuracy t. By just casting high over the get and suddenly slowing it down h the finger, is by no means a re- le method. Perfect casting calls for efinite stroke. The release must also made at a definite point during the t. Casting becomes some what chanical when you have developed good stroke with proper timing of release. This comes only with ctice.

To develop a definite stroke we must e a starting point as shown by ure A above. Figure B shows the arc for the back cast, while figure overs the arc for the forward cast. e starting point is about forty-five rees. The entire cast should not e more than ninety degrees move- nt of the rod for a distance of one dred feet. Short casts will require ut the same degree of movement the rod, but the starting point will lower. For a figure, let us take about enty-five degrees for the movement he butt section. Develop your cast- to the point of making the same vement for each cast. (Start your t with the rod at the very same le for every cast) made at a definite ance. Keep on that target until have mastered that distance.

Once the spin caster has mastered a fect cast for, we'll say forty feet, he is ready for a fifty foot cast. To reach the fifty foot target, the cast must have more elevation because of the greater distance. To increase the elevation, merely hold the rod tip about two inches higher at the start of the cast. With that same seventy-five degree movement in the rod, the back cast will come back a trifle farther because of the higher starting point. The point of the release will also be a bit higher due to the higher finishing point. In other words, with a definite stroke and with a definite timing, the two inch rise at the start will give an additional ten feet in distance.

Space does not permit complete instruction on the finer points of accuracy casting. Therefore, many details have been omitted. The author will however, answer all questions submitted by letter. A stamped addressed envelope will be appreciated.

Fishermen interested in spinning can't go wrong with the new Airex six foot rods. They are made of the finest butt cut Tonkin cane, two piece five strip construction and priced at $18.95. As I have said before, the two models, *light* and *medium,* will handle every lure you wish to cast under normal fishing conditions. For further information, please contact the writer or the Airex Corporation, 34-19 Tenth Street, Long Island City 6, New York. Your mentioning of Tackle Topics will be appreciated.

Nice Going!

From the February issue of the "Boone News" published by the Daniel Boone Rod and Gun Club of the Amity, Exeter and Lower Alsace Area, we lift from the editorial "Nice Going" the following paragraph:

> "Your game commission and your fish commission can no longer operate without the strong support given by the clubs of our commonwealth. The members of these two bodies look to us for ideas and suggestions to better serve an ever growing army of men who take to the fields, woods, and waters each year. Therefore, you must remember that only our collective efforts in our clubs will bridge the gaps between our lawmakers and sportsmen."

It is refreshing indeed to observe that the work of Conservation in Pennsylvania has been given this excellent cooperative support by a very fine organization.

—*Pennsylvania Angler.*

Pennsylvania Fish Law Violations

Cases Settled During the Month of February 1950

BEDFORD COUNTY

Long, Arthur A., Wood, Pa. Fishing without a license $25.00

CLARION COUNTY

Bish, Charles, 702 E. Broad St., New Bethlehem, Pa. Fishing with a borrowed license 25.00

Busch, Merle L., Route 1, Knox, Pa. Fishing without a license 25.00

Silvis, John J., 714 E. Broad St., New Bethlehem, Pa. Loaning and Transfering a license 25.00

DAUPHIN COUNTY

Gofhus, Andy, 126 Fisher Ave., Middletown, Pa. Exceeding creel limit 20.00

Copko, Edward, 446 S. Catherine St., Middletown, Pa. Exceeding creel limit 20.00

FAYETTE COUNTY

Fordyce, Glenn, R. D. 1, Uniontown, Pa. Exceeding creel limit 20.00

FRANKLIN COUNTY

Carbaugh, James U., Mercersburg, Pa. Illegal device 20.00

Swanger, John A., Star Route 3, Shippensburg, Pa. Fishing without license 25.00

HUNTINGDON COUNTY

Keith, Robert M., Spruce Creek, Pa. Not having rods under immediate control 20.00

INDIANA COUNTY

Secrist, Paul, Box 46, Dayton, Pa. Fishing without a license 25.00

LEHIGH COUNTY

Kremsner, Robert C., 308 First Ave., West Catasauqua, Pa. Fishing without a license 25.00

LUZERNE COUNTY

Gutowski, George, 225 Mosier St., Nantocoke, Pa. One pickerel in closed season 10.00

Wisniewski, Leo, 182 Reynold St., Plymouth, Pa. Exceeding creel limit 50.00

MONTGOMERY COUNTY

Johnson, Almon F., 729 Derstine Ave., Lansdale, Pa. Fishing without a license 25.00

SOMERSET COUNTY

Stapinsky, Joseph S., Mine 30, Windber, Pa. Fishing without a license 25.00

TIOGA COUNTY

Bush, Clifford, R. F. D. No. 4, Wellsboro, Pa. Illegal device 20.00

VENANGO COUNTY

Reagle, Elmer, R. D. 3, Franklin, Pa. Fishing without a license 25.00

YORK COUNTY

Baker, Sterling, Shrewsbury, Pa. Exceeding creel limit 10.00

OUT OF STATE

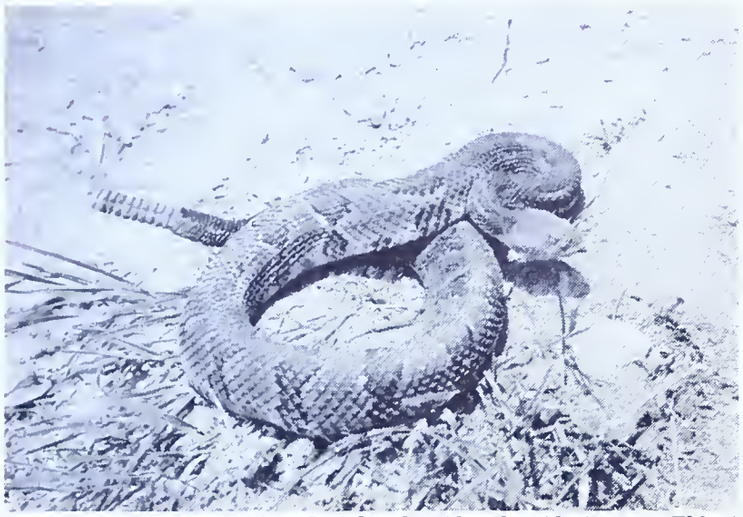
Horvatt, Robert S., 90 Adams St., Campbell, Ohio. Fishing without a license 25.00

PENNSYLVANIA REPTILES & AMPHIBIANS

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 13 . . . Rattlesnakes

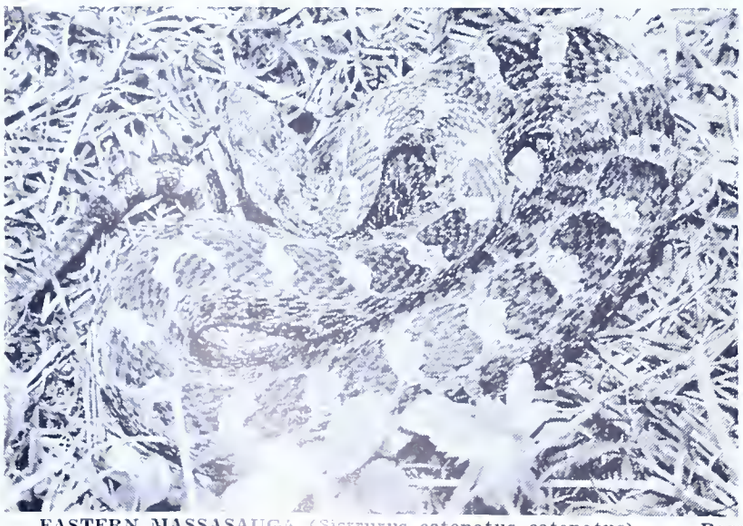


TIMBER RATTLESNAKE (Crotalus horridus horridus) . . . This is called the "yellow" phase because the ground color is sulphur-yellow; the pattern is black chevron-shaped blotches across the body; timber rattler is our largest poisonous species, reaching a maximum of about 5 feet in Pennsylvania; most common in sparsely settled mountainous regions but in late summer often descends into valleys to obtain water.

TIMBER RATTLESNAKE (Crotalus horridus horridus) . . . The ground color makes this individual the "black" phase, but colors not be correlated exactly with sex; timber rattlers feed almost clusively on warm-blooded prey, chiefly rodents and birds; from 7 12 young are born in September; has been recorded from 46 count but is now extinct in some of these, such as Allegheny.

RATTLESNAKE RATTLES . . . The number of rattles does not indicate the snake's age; a new segment is added each time the skin is shed, which may be several times a year; rattles are brittle and terminal portions often wear out or break off; segments fit together loosely, and, when snake vibrates its tail, the segments rub together producing a buzzing noise; rattlers do not always warn before they strike.

RATTLESNAKE FANGS . . . Fangs are highly modified teeth, sh and hollow; behind the jaw on each side of the head lies a poi gland in which venom is made; when snake forces fangs into victi flesh, venom is squeezed from glands through a duct and into hollow fangs; action is similar to that which takes place in a hy dermic needle and syringe; venom is a liquid; yellowish in color.



EASTERN MASSASAUGA (Sistrurus catenatus catenatus) . . . Rare in Pennsylvania, having been recorded only from Allegheny, Butler, Crawford, Lawrence, Mercer, and Venango counties; top of head covered with large plates, distinguishing it from timber rattlesnake; has a small rattle and a central row of squarish spots along the back; partial to prairies and marshy areas; amount of venom injected is small but snake must be considered dangerous; produces from 5 to 9 young in August or September; maximum length 3½ feet.

FIRST AID FOR SNAKE BITE . . . When medical attention is available at once, cut deeply through fang marks; apply tourniq made from belt, garter, handkerchief, or whatever available betw wound and heart; if no suction equipment is available, use mou keep victim as quiet as possible and loosen tourniquet briefly ev ten minutes; tourniquet should be tight enough to retard flow venous blood and lymph but not tightly enough to stop arterial bl from reach wound; do not use alcohol under any circumstance.

THE ROTIFERS

By CARSTEN AHRENS

This is one of the animals that all students of botany and zoology remember. The adjective, *ubiquitous,* might have been coined just for them. The student may have a slide of a one-celled plant or animal on the stage of the miscroscope. Everything is perfect. The algae or the amoeba is in just the right light. Then in romps a rotifer and upsets the applecart in this drop-of-water world.

Rotifers are found wherever there is water, although fresh water attracts greater numbers and varieties than salt water does. They will be present in unusual habitats: water in eaves troughs, in holes in trees, in pitchers of pitcher-plants. Fews waters are too polluted to produce rotifers. Most of them are free living, but a few are parasitic. Most of the species are free swimming and independent, but a few are sessile and colonial. They are such transparent bits of life that all their organs are easily observed. The body seems to be divided into three parts. There may be one, two, or three eyes present, and some species have none at all.

The animal gets its name from its most characteristic organ. At the anterior end of the body is a ciliated region called the corona. In different species the arrangement and length of the cilia differs greatly, but the beating of these hundreds of hair-like processes gives one the impression that one or more wheels are whirling about. Wheel-worms is one of the common names for the rotifers.

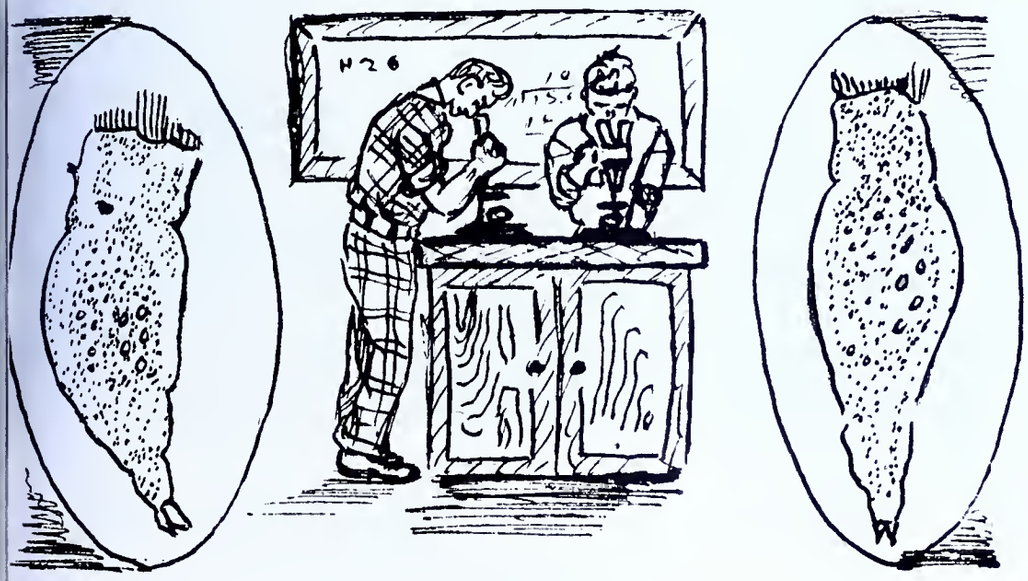
The cilia play an important part in the life of the rotifer. First, the beating hairs act as a propeller and is the chief organ of locomotion for the tiny animal. At the posterior end of the body are two tapering toes which act as a rudder to guide it on its spiral path. Second, the beating of the cilia sets up a tiny whirlpool into which free oxygen and food particles are drawn. Behind the corona is a mouth and a short tube or mastex, equipped with three jaws that are quite unlike those possessed by any other animal. Third, as the water swirls around the body and away, it carries off waste and carbon-dioxide from the animal's body.

In most animals, far down the evolutionary ladder, the alimentary canal is vague to say the least. Often there is only one opening, as in the hydra, that must suffice for both the taking in of food and the throwing off of waste. But in the rotifer the digestive tube is complete, with a definite opening at one end for food and with an opening at the posterior for excluding wastes.

Although your slide may be swarming with rotifers, there will be few, if any, males among them. In most species the males live only long enough to mate. They are much smaller than the females. They have a very poorly-developed digestive tract or none at all. They're doomed for a short life from the moment they hatch from the egg. In a number of species a male has never been described and probably never will be.

The eggs that are laid are of three kinds: Large ones that produce females, small ones that produce males, and large ones with thick shells that are often armored with spines and hooks. These are called "resting eggs" or "winter eggs;" they have the ability to resist extremes in climatic conditions.

Rotifers live on one-celled plants and animals. Those that are herbiverous are ponderous and slow-moving. The agile and alert ones are the one-celled animal eaters. They, in turn, are devoured by larvae of water insects, so are important in the intricate food chain of the animal world.



Results of the Iselin Rod and Reel Club's Big Fish Contest

The final results of the big fish contest conducted by the Iselin Rod and Reel Club of Iselin, Pa., made awards to the following winners in their respective classes: The grand prize which was awarded for the largest trout regardless of specie and regardless where caught in Pennsylvania went to J. P. Patrick.

CONTEST NO. 1

For catching the largest trout anywhere in the state other than the Fisherman's Paradise in Bellefonte and Indiana County.

Brown Trot Division: Largest, S. Henkl; second largest, J. P. Patrick; third largest, M. Marafka. Rainbow Division: Largest, J. P. Patrick; second largest, J. Lambert; third largest, G. Beni. Brook Trout Division: Largest, B. Langham; second largest, J. Lambert; third largest, S. Toldi.

CONTEST NO. 2

Fisherman's Paradise contest for fish caught in Paradise only.

Brown trout division: Largest, P. Schirato; second largest, None. Rainbow Division: Largest, J. P. Patrick; second largest, Helen Wargo. Brook Trout Division: None.

CONTEST NO. 3

For trout caught in Indiana County only.

Brown Trout Division: Largest, G. Beni; second largest, J. Deemer. Rainbow Division: Largest, G. Beni; second largest, None. Brook Trout Division: Largest, J. Roman; second largest, M. Marafka.

"The Temporary Rest"

Oh! the turmoil of the city;
Its confusion is so strong,
Oh! to leave its habitation
To go forth and strive upon
The paths the forest created.
Where the brooks ramble onward,
With the wind they make a song,
To join in upon the chorus
As you joyously seek on.
Oh! the joy to see its splendor;
The peace to dwell within its halls.
Every object speaks a tale;
You desire to know it all.
Oh! the sky dressed in crimson;
Rests the dazzled, weary eye,
As the stars at twilight twinkle;
Set your thoughts to wondering why?
As the coat of nights slipped over
The broad shoulders of the sky.
In the dark and lasting shadows;
You do linger, but cannot stay;
To the city, you must wander;
To the city, there to stay
Pining for the mighty forest
Waiting to return some day.

By Fenwick L. Smith.

Ecological Sense or Nonsense

(*From page 3*)

we want to maintain our fish population, it is time that we try some method to maintain the natural food supply in our streams. Indeed not only is it necessary to preserve all the aquatic insects we can but also the habitats of these insects so that more might be produced in the future. Many elements of the progress of civilization have influenced the number of aquatic insects which are present as natural food for trout and other fresh water fish today. Every fisherman has at some time or other seen the thousands of images of the May flies, and even adult caddis and stone flies, which dip down to a wet, glistening, blacktop road in the evening, laying their eggs in an environment that assures their destruction. Insects accumulate on our windshields and headlights in the summer in such numbers that it is difficult to see through them. We usually dismiss this with a shrug of our shoulders and are annoyed by the necessity of having to stop at some service station to have them removed, but little do we think of the millions of eggs which are lost in this way and the future fish food which is lost forever. Only an utterly impractical person would suggest that we tear up our highways or that we go back to the horse and buggy, but it is true nevertheless that these and other inventions and improvements have played a role in the disappearance of our once enormous hatches of flies along our fishing streams in the state. Many fly fishermen have told me they are certain that much of the natural hatch of aquatic insects over trout streams which they fish has been lost. This is not only true here but also in New York and other neighboring states, and if there is anything practical which we can do about it, we had better start before the opportunity of correction is lost.

Recently the South Central Division of Federated Sportsmen approved a resolution, which they hope will meet with the approval of the other divisions. This resolution would prohibit the removal of natural aquatic food from trout streams of the state. This would not prevent its use in these streams but would only prevent its removal from such streams. We must be willing to regulate, in part at least, our own fishing behavior if we want fishing in the future. We have accepted the fact, that already our fresh water fishing is sport fishing. If any one, who is so practical as to figure out the cost of our trout and bass on a per pound basis, confronts us with this information, we dismiss him with a wave of our hands or hurry him away from the proximity of our wives, who might get the idea that this fishing is too expensive. The day of the fish hog is over or should be, and certainly the pounds of fresh water fish that we bring home do not become a staple of our diet.

One natural bait, which is being removed in increasing numbers, is the larva of the crane fly; the common one is probably *Tipula adbominalis*. Recently I talked to an old fishing crony about this particular bait, and in his reminiscences he recalled that he had fished with this bait fifty-one years ago. I was introduced to it about fifteen years ago, and within my own limited experience, I have seen its use as a bait increased until now along certain streams most of the fishermen will be using this one larva. One time this past summer a fisherman, in all earnestness and in the spirit of good fellowship, stopped me along our local trout stream and gladly showed me the bait that he was using and suggested that I get some and try them. On further inquiry I found that this sportsman was from Indiana and had been on that stream about an hour. When the larva of the crane fly is collected, masses of aquatic plant life and debris large enough to fill a half bus[illegible] basket are removed from the stre[illegible] and piled on the closest log, rock, or [illegible] the bank where they are searc[illegible] and all larvae removed. Possibly t[illegible] might not be so bad, but rarely is t[illegible] material returned to the water, a[illegible] the thousands of scuds, May [illegible] nymphs, caddis cases, and other for[illegible] of aquatic life die while squirming [illegible] water that they need.

As fishermen today we dare not [illegible] as slow to practice and apply the art [illegible] conservation as the lumbermen, [illegible] miners, and other groups have been [illegible] the past. We are today hurriedly t[illegible] ing to undo the damage done to [illegible] streams a hundred years ago and [illegible] our forests even longer ago, but at t[illegible] same time proceeding with the [illegible] struction of our natural fish foods a[illegible] feverish pace. If we respect our o[illegible] intellect and can read the handw[illegible] ing on the wall, we had better lock t[illegible] stable door before the horse is stol[illegible]

Philipsburg Elects

At the regular meeting of the Philipsb[illegible] Rod and Gun Club the following offic[illegible] were elected to head up this Centre Cou[illegible] aggregation. President, George Griest, [illegible] Philipsburg; Vice President, Albert C. Sh[illegible] mel, West Decatur; Secretary, Russell [illegible] Lucas, Philipsburg; Treasurer, Edward L[illegible] ing, Philipsburg; Directors, Dr. Claude Ge[illegible] Jr., Philipsburg; J. Leroy Umholtz, San[illegible] Ridge; George Griest, Sr., Philipsburg a[illegible] William Fenton, Philipsburg.

The fishing season is not far off and T. L. Rodgers, is getting his gear in readiness. To avoid slipping while wading this spring, angler has painted soles and heels of his boots with Pliobond, an all-purpose adhesive, and sprinkled an abrasive material on t[illegible] tacky surfaces.

Editor's Note. Pliobond, a product of T[illegible] Goodyear Tire & Rubber Company is avai[illegible] able at all 5 & 10c chain stores.

What's New in Fishing Books

Reviewed by Hugh Johnson

I caught the fly-tying bug in the days before "complete" kits were available in every sporting goods store in the land and from scores of firms and individuals by direct mail. I raided chicken yards and duck farms, stole bits of fur from ladies' coats and colorful bird feathers from their hats, plucked fur from the carcasses of rabbits and skunks that had been run over on the highway, and was once caught by a policeman in the act of jerking a tail plume from a peacock in Roger Williams Park in Providence, R. I. In those days, the Grand Search for fur and feathers, B. F. (Before Kits), reduced—or elevated—the adult to the status of a small boy stealing jam or snipping a curl from the head of the fifth-grade girl in the seat in front of him. And the undisciplined "invention" of wobbly-hackled, crazy-winged, multi-colored flies that would send a self-respecting trout quivering for cover gave him the thrill of *creating* something absolutely new and different, however useless. If kits had been available in those days, with the customary booklet of instructions and diagrams, I would have had one, of course, and would have saved a lot of time and lost out on a lot of fun.

It was along in that early, uninhibited stage of my fly-tying career that Rube Cross' *Tying American Trout Lures* came into my life. I began to settle down then, learned from its pages the basic techniques of fly-tying, learned good hackle from bad, the proportions of a good fly, learned the wisdom of sticking to standard, tested patterns instead of inventing new ones, and began to send money for good tools and tying materials. A little later I bought Rube Cross' second little book, *Fur, Feathers and Steel* which went into more detail about fly-tying materials, heightened my desire for better materials and better workmanship, and together with the earlier book brought me through the three R's of fly-tying.

So, it is like coming across one's old teething ring, with a new coat of paint added, to find *The Complete Fly Tier* by Reuben Cross (just published by Dodd, Mead and Company, New York, N. Y. $3.00). It's virtually the same teething ring—the two earlier books combined into one volume, and the new paint is the attractive new jacket, a few new illustrations, and some added material on tying salmon flies. The text of the two earlier books, out-of-print for some years, is reproduced virtually intact in *The Complete Fly Tier,* the same plates being used. In fact, so intent were author and publisher on not changing the original texts that, in putting all the photographic illustrations into three groups in the new book instead of keeping them in the order in which they appeared in the original editions, they didn't bother to edit those portions of the text referring to the location of specific illustrations by page number. So—on page 5, for example, of *The Complete Fly Tier,* you read that you should turn to the illustration opposite page 5 to see a picture of some hackle feathers, and after much hunting and thrashing through pages you finally locate the illustration in question around *page 30.* This happens in a number of places, and it's careless editing.

Careless editing, fortunately, doesn't detract from the sound advice, humor, and down-to-earth wisdom in the book, and it is good to have this material available again. If you already own the two earlier books, there's no sense in buying this new one; but if you don't have both of the old books, I can recommend *The Complete Fly Tier* as a useful, enjoyable book to own, especially for the beginner.

Promoting Casting

Hellertown's Sportsmen's Association, trying to foster interest in fly and plug casting with the possibility that tournaments might be held in the future, had their first class of instruction in that art recently. Spokesman Bill Danko, pleased with the turnout and the interest displayed, reminds everyone that the sessions are free, and are scheduled to be held at the Hellertown Legion Building. Men, women and children are urged to attend and try their luck at the very enjoyable activity. "People don't realize that casting can be highly competitive," he states. "We cast a 40 to 65 foot range, with circular targets scattered over that area. Every hit on the target earns 10 points, and a caster loses one point for every foot he misses."

The Warden Is Your Friend

That the Blair County Game, Fish and Forestry Association is really assisting in this vast program of public fishing in Pennsylvania is quite evident with the two illustrations.

Charles Kustaborder, Chairman of the fish committee of the Blair County Game, Fish and Forestry Association is shown placing a bucket full of trout in a popular Blair County trout stream.

Claude Baughman, State Fish Warden of Roaring Spring is shown filling the bucket with fine trout for eager Blair County streams. Standing in the rear and reading left to right are: Lloyd Sutter, Robert Shutter, George Bowman and O. J. Evans.

Rhododendron

By ROBERT LEO SMITH

The rhododendron or rosebay is a familiar plant companion to the angler of the mountain stream. Its dense green growth encloses the foaming water in a world of its own. In winter as in summer the tough leaves of the rosebay shut out the outside world, preserving the sanctity of the stream. In winter, though, the leaves are drooped and curled to conserve moisture, but in spring, summer and fall they are stiff and shining, reflecting their greenness in the shaded water.

The rhododendron is often called laurel and confused with another shrub, the mountain laurel. But there isn't too much similarity. The rhododendron grows in muck, gravel and damp rocky soil along the shaded streamside, while the laurel grows in drier, sunnier places. The leaves of the laurel are small and thin compared to the 7 inch long leaves of the rhododendron. The rosebay is larger too, at times growing 40 feet high and attaining a trunk diameter of an inch.

In June and July the deep green of the forest glows with the hugh blooms of the rosebay. The flowers, 2 inches broad, grow in clusters on sticky stems. Waxy in appearance, they vary from white to a rose and purplish color with white, yellow or orange spots with the blooms.

No matter how much charm the rhododendron imparts to the streamside, it is at times very frustrative to the angler. If you have ever seen a choice portion of a stream you would like to fish but you can't wade there because the water is too deep and you can't walk there because the rhododendron is so close to the water; if you have ever started down a trail only to meet a solid wall of rhododendron, you will know how irritating the plant can be at times.

Each year thousands of rhododendrons are collected from the wild and peddled for garden shrubs; and thousands more are grown and sold by reputable nurserymen. Although it does have some use in home landscaping, to me a rosebay planted in a garden is like a brook trout in a goldfish pool. Each is out of its element. The rosebay is a forest plant that likes the cool, northern slopes and the shaded streamside. It associates with the hemlock, the birch and the swift flowing water. In winter it serves as a shelter for the grouse and the deer. In summer it is the home of the hooded warbler and the veery, whose song spirals from its depths at evening. And all through the year it is the silent somber guardian of the mountain stream.

Hydro Fishing Club Contest Opened March 1

Pennsylvania Water & Power Company and Safe Harbor Water Power Corporation announced today the opening of the 1950 Hydro Fishing Club contest. The contest will run from March 1 to November 30 but because of state laws, only Carp and Catfish may be submitted for prizes until the opening of the game fishing season on June 1st. After that date, Bass and Salmon as well as Catfish and Carp will be eligible for prizes.

The 1950 contest will make cash prizes totaling $200 available to club members. First, second and third prizes of $30, $15 and $5, respectively will be awarded for prize winning Bass, Salmon, Catfish and Carp. Letters telling about the contest and prizes as well as the weighing stations have been sent to each of the more than 3,700 members of the Hydro Fishing Club.

The Federated Sportsmen of Lancaster County and the York County Federation of Sportsmen's Clubs will cooperate in judging the winners of the contest. Awards will be made on the basis of weight, but in the event of a tie, the longer fish will be awarded the higher prize.

While it is necessary to be a member of the Hydro Fishing Club in order to be eligible for a prize, the fishing facilities at Holtwood and Safe Harbor are open to all fishermen during the daylight hours and until to midnight.

Fishing Is Fun, It All Depends!

(*From page 9*)

ing how hungry he was and how wife would worry about him was en too lazy to walk to the Delaware ich parallels the highway about r hundred yards away to fish by ding since no boats were available re. We only caught Rock Bass l plenty of those on Helgrimites. cottage there had a dutch oven, and sure enjoyed those fresh fish—but given a dollar for one shaker of t. We didn't give any to our guest ny guy too lazy to help catch, clean with a gang don't get my sym- hy. Let him go hungry, his belly ing and worrying every ten min- s was too much for me. Moral—you can't stand gaff—Stay Home en things go bad.

Maybe you think the laugh or joke s always on the other guy—not al- ys. It can happen to you or me. is one is on me boys so have a good gh at my expense, someday I may gh at you—"Quien Sabe" On Sun- I went up to Priest Camp (Big eek) with a fellow who was going Lehighton to visit. I had no car at time, so Carl left me off on the hway and I walked down to the ek. He was to pick me up at 0 P. M. My wife had gone along the ride since Carl's family and I re friends. She didn't accompany to the creek. I had a swell day ing until it happened—I had be- ne so interested in fly fishing for a er that I didn't look where I was lking. Well, Brother, I went over head, my hat went down the creek, ever did get it, I still had the rod l my basket. After I struggled to land, I took off the boots and the t. It was near 6:15 P. M. and don't those mountains don't cool down t after the sun is low. I was in the cess of wringing out the clothes, en who should come along but a gal ing and me in my birthday suit. s she shocked, I'll never know, all said was, "Brother, you must have in; You look like a drowned rat." e went away laughing. I started walk to the Forest Inn to get the od in circulation. Those boots still nt squish-squish. Let me say here, no fun to walk four or five miles boots—I had blisters for weeks.

Sure fishing is Fun but like I said—depends!

Take the time I had gone up to cks Pond, that was in the days when s lake was an excellent Pickerel pond. The fish ran to good size, today the pressure is too great, must be all of four hundred boats on the place now. I rented a boat down at Heimbachs early in the morning and was plugging away merrily with a Flash Plug when I happened to look down in the water, I saw a bottle that did not look natural to me, the water was clear, depth about two feet, now I ask you, who ever saw a bottle with amber fluid in it, the seal unbroken in a lake, unless some poor guy lost his internal fortitude. My buddy said I was seeing things, well, to make a long story short, the long handled net gave me the answer, it was a bottle of "Golden Wedding" never opened. That was a most enjoyable trip that day.

While fishing in Jersey last year on Mountain Lake we heard a scream and after locating the source we rowed over and asked what the trouble was. The fellow said his wife got hit with a plug in the seat of her pants when he forgot to use the overhand cast, instead of the side cast. She couldn't sit down as that plug not only had "pants" it had "meat" too. They took her to a doctor in the car, and all the way she went with her knees on the floor and her head on the rear seat looking back. That was some scrap between them and the language was torrid. Moral—Don't use the side cast, you may catch your wife, friend and serious damage may result. I often wonder if those two still go fishing together. Yes, Sir! fishing is fun, It all depends!

Try and Find These in Webster's

Animals—Animals are lower than man in the scale of evolution but they don't keep on grabbing more when they have enough.

Apartment—A place where when you start to turn off your radio you find you have been listening to the neighbor's.

Baby—Usually a healthy pink but maybe a loud yeller.

Banana—A reminder that fall is near.

Beach—A place where people lie upon the sand—about how rich they are.

Champagne—What makes you see double but feel single.

Fall—The bigger the summer vacation the harder the fall.

Flu—Sometimes the eyes have it but usually the nose.

Horse—A critter who eats when he hasn't a bit in his mouth.

Clinton County Sportsmen Meet

Officers and committee chairmen of the Beech Creek Sportsmen's Association, Clinton County Fish and Game Association, Southern Clinton County Forest, Fish, and Game Association, and the Western Clinton County Sportsmen's Association are shown here at a Lock Haven meeting of the Clinton County Sportsmen's Federation.

The county federation picked its 1950 officers, who are noted in the following list of those shown in the picture: Front row, left to right—G. W. Cross, state fish warden; Ernest Guisewite, secretary-treasurer; H. M. B. Weicksel, vice president; C. A. Albright, Joseph Berry; Russell Roberts, vice president. Middle row—John Bubb, T. C. Snyder, Jerry Walizer, Jack Swartz, Merrill Rauch, G. W. Myers, Jr., Charles Young, R. P. Fakoury, and C. F. Shearer, guns editor of the Pennsylvania Game News. Back row—J. A. Painter, president; Robert Terrill, R. L. Lindsey, H. J. Miller, Charles Leathers, Leon Passell, Jr., and Fred Rupert, vice president.

Spinning for Trout

(*From page 5*)

to the left handed reel, which most spinning reels are, it might be pointed out that this is no handicap, but instead is a great convenience.

Unlike a casting rod and reel, after a cast is made the rod must be exchanged from the right to the left hand (in the case of the fisherman being right handed) and then the right hand used to turn the handle and retrieve the lure, in spinning there is no change of hands and is a time saver and holds tremendous advantages.

The cast is made with the right hand and then even before the lure has reached its destination the user can begin to wind the line with the left hand. It only takes an hour of practicing until the method is mastered and then it can be easily understood what advantage it has. There are no backlashes or bird-nests to contend with, for the spinning reel does not work on the principle that the spool of the reel revolves.

Using this method of fishing you will take big trout this season. Spinning is fast becoming the sporty way of taking trout in the early spring when the streams are too high for dry fly fishing. Try it once, and you'll join the ever-growing ranks of the spinning enthusiasts and you'll rid the streams of those over-grown trout and this will give the younger ones a chance to grow instead of they themselves acting as bait.

This year try spinning.

'My Dream Fish Had Hit'

By John E. Heyburn

The day was gray and mucky when I climbed out of bed at seven in the morning. While sitting at breakfast with my fishing partner, George Lobant, we decided to fish the Bell Branch of Hammersley Fork with grasshoppers. My wife drove the car about five miles into the heart of the mountains and left us out in some forsaken hole in the woods,—where, I wouldn't know. Luckily, George knew where we were. While walking down to the creek (two miles away), the rain began. When we arrived at the creek we found the water was very low. In some places it was entirely dry and the many holes were very shallow. My equipment consisted of a four ounce rod, HDH tapered line, tapered leader down to 2x with size 10 hook attached, and a punctured beer can full of live grasshoppers.

At the first hole I crawled up to the edge of the creek on my stomach in order not to show myself, arched my pole and shot a grasshopper into the water. Nothing happened. I tried this same procedure again. Nothing happened. I peered over the bank and saw three legal brook trout dart under the stones. I decided to let them alone and walked down creek until I saw a nice little pool with water coming in and running out. The conditions were fine to approach this pool so down I got and crawled to the edge again. I shot a hopper over—nothing happened. I brought in my hopper and decided to do a little experimenting. I took the bait from the hook, and threw it into the water. Wham! The hopper disappeared. A nice trout had grabbed it! The light dawned. I knew the trout were seeing my leader! So —instead of using the 2x tibit, I put on a 4x, which is much thinner, attached the hook, put on a hopper and shot her in. Wham! A nice 8 inch brook trout had it. The secret was out!

I fished several holes, taking eight nice brook trout. My friend, George, had six. The creek was widening out as we traveled down and I spied a large hole about fifty yards ahead. I crawled to the edge and shot a hopper over. It looked as though the whole bottom of the creek exploded! My dream fish had hit! That 21 inch beauty was really flashing from then on out. I was afraid that I could not hold him with only one pound ar a quarter test tapered leader, but my delight, fifteen minutes of figi brought my fish safely to my cree I yelled to George and brought hi running to see this monster. Georg told me that it was next to the large fish caught that year at Cross Fork and he said it was a beauty, and patte me on the back for exterminating th killer of the stream.

We each had our limit of fish fo the day by the time we reached th fork of the Bell and Nelson, whic make up the Hammersley Fork Cree We had five miles to walk in the rai to get to the road, where we met ou wives with the car. That was th longest five miles I have ever know being soaked to the skin and weighte down with fish, but the look of aw on my wife's face when she saw m trout was worth all the discomfort.

Back we went to the hotel, and c cleaning the big one, I found thre small brook trout in his stomach. Th was really a killer that I had hooke and it was a good deed done to tak him out of the creek. All the re of my catch were native brook trou running from seven to nine inche What a meal we had on those littl brook trout!

I have one last word.—This litt experience proves that the day never done—until it's over, And thank for the prize!

Fishing Can Bring Many Thrills

By CARL DeBLOOM in Columbus Dispatch

It is hard for some people to understand how a man can come home soaked to the skin, sunburned, dead tired and with an empty creel and announce that despite the fact he didn't catch any fish it was a swell trip and "I wish I could go again tomorrow."

Many of the reasons that make fishermen love their sport—and they have nothing to do with insanity—cannot be explained. It is just that a rod and a stream make another world and there is nothing here to compare with it.

However, there are some concrete reasons why fishing can bring thrills and one of the best is that most sought after game fish in the world—the largemouth black bass.

Perhaps a little discussion about the king of American game fishes will convert a few of those who look upon fishermen as people who should visit a psychiatrist.

The largemouth could be described as a fellow with courage, stamina, viciousness, cunning, versatility, stubbornness, showmanship, fight and—a streak of just plain cussedness.

He may pass up the most attractive artificial lure for a glob of worms or a minnow or he may choose to smash at a homely plug. Again he may sulk without reacting to any lure, artificial or natural.

When the largemouth does strike you will think that Satan himself is on the other er of the line. All of the sudden it will see that he is going several directions, includir up, at the same time.

Many an angler has had his plug tosse right back in his face by one that has leape high in the air and shook the plug loose wit its violent wiggling. If you land him yo are a bass fisherman forever more.

The largemouth is a member of the sur fish family and his color will vary in diffe ent waters. Those taken in clear, sand gravel bottom lakes and streams have gree sides shading into white on the belly. Tho from mud or moss bottom lakes or sluggis streams will be almost black on the bac and sides while the belly will vary from gra to a yellowish white. Regardless of wate conditions a dark, blackish strip runs alon the sides from the gills to the tail.

The easiest way to distinguish a smal mouth from a largemouth bass is by th position of jaw. On the largemouth this joir extends back from the eye, while on th smallmouth it ends directly below the eye

While the average size largemouth hooke by fishermen is from one to two pounds, th record caught on rod and reel, was 22 pounc and four ounces. It was caught June 2, 193 in Montgomery, Ala., by George W. Perry.

Trout Fishing

By M. J. De BOER

As with Sampson, when shorn of his locks, the strength of winter wanes. Old age resents the encroachment of youth and, with spring so near, winter may like Sampson end in a last burst of fury. The rising sun, warming the grassy slopes and pouring through leafless branches, revives the sleeping landscape. Each departing day brings April 15 closer and the opening of the new trout fishing season.

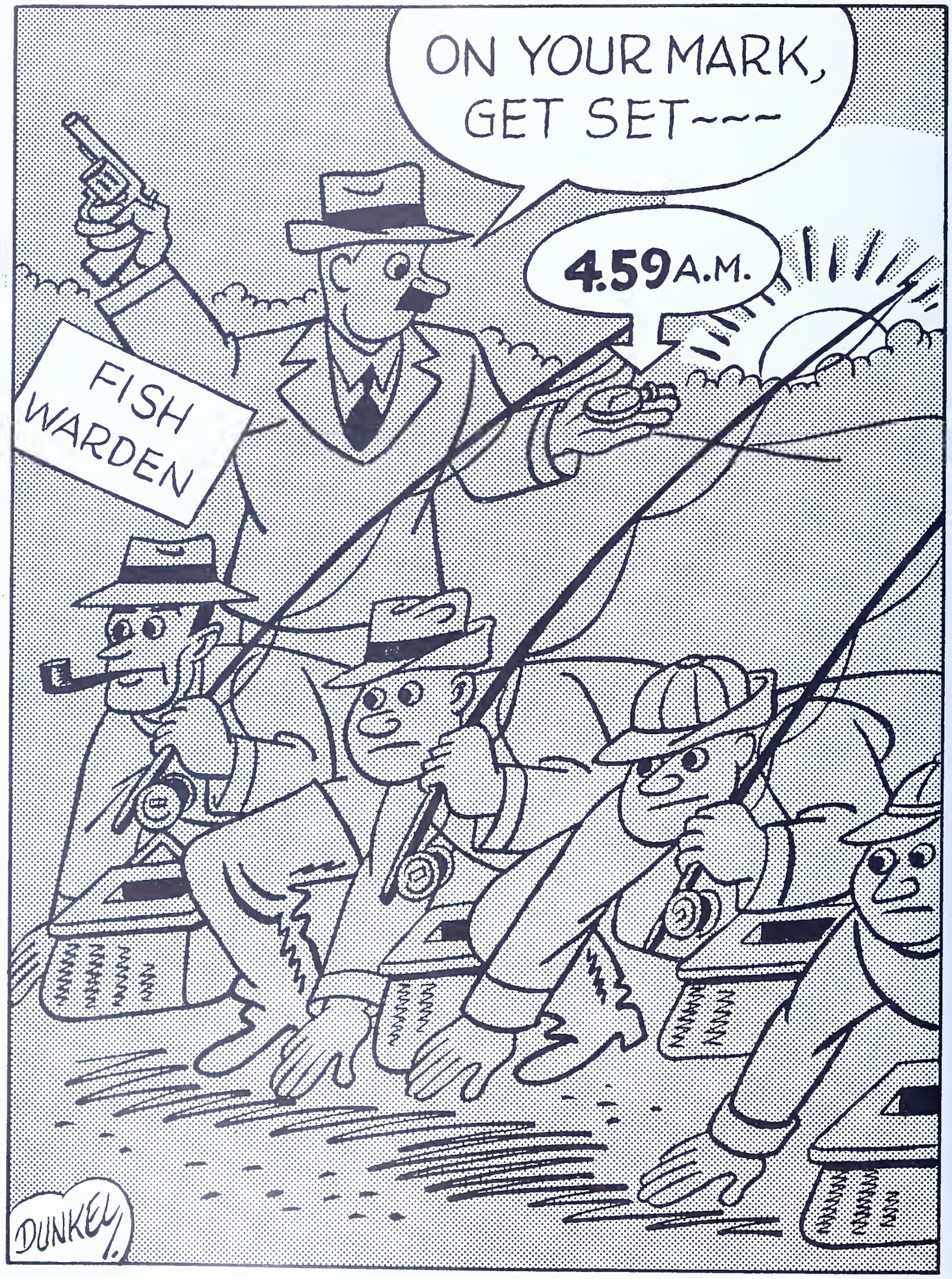
* * *

Winter has been kind. The streams and lakes were not locked by ice, and little or no anchor ice formed on stream bottoms to entomb insects and cause trout to go hungry. Responding to the warmer water temperatures of recent days, trout are feeding upon the active insects, gaining in weight and strength. The young trout fry, hatched early, have left the redds and are learning the ways of their elders in the open streams. Many of the giant rainbows, having completed their domestic duties, have returned to the big lakes, others remain in the streams to sulk in the deeper holes.

* * *

Memories of other seasons: Days seemingly reluctant to end as the drabness of winter gave way to the color and music of spring . . . soft breezes carrying the songs of birds and the scent of moist earth . . . a promising opening day turning to rain and sticky snow which clung to alder and willow and hapless fishermen . . . the grace and whiteness of birch against the somber darkness of spruce and hemlock . . . the thundering rush of a grouse bursting from a thicket . . . a limpid stream with the daring of youth merrily kissing each stone and waltzing away . . . arbutus in the shadows hiding from the warmth of the sun . . . violets and marigolds forming patterns on Nature's carpet . . . the musical ring of distant bells of ranging cattle . . . shadbush in the full glory of bloom . . . aspen leaves shimmering in the breeze . . . voice of the stream and the whisper of trees punctuated by the melancholy coo of mourning doves . . . the pause as a doe and fawn come to drink . . . basswood in flower and the hum of bees at the feast . . . white water and dark pools . . . the tight line and a rainbow of great vigor and determination . . . night fishing with big trout gorging on a new hatch of mayflies and the piercing whistle of a nearby whippoor-will . . . moonlight through the pines . . . the solace and comfort of intimacy with Nature . . .

That's trout fishing!



THE DAY OF THE BIG RACE

—Courtesy, York Dispatch

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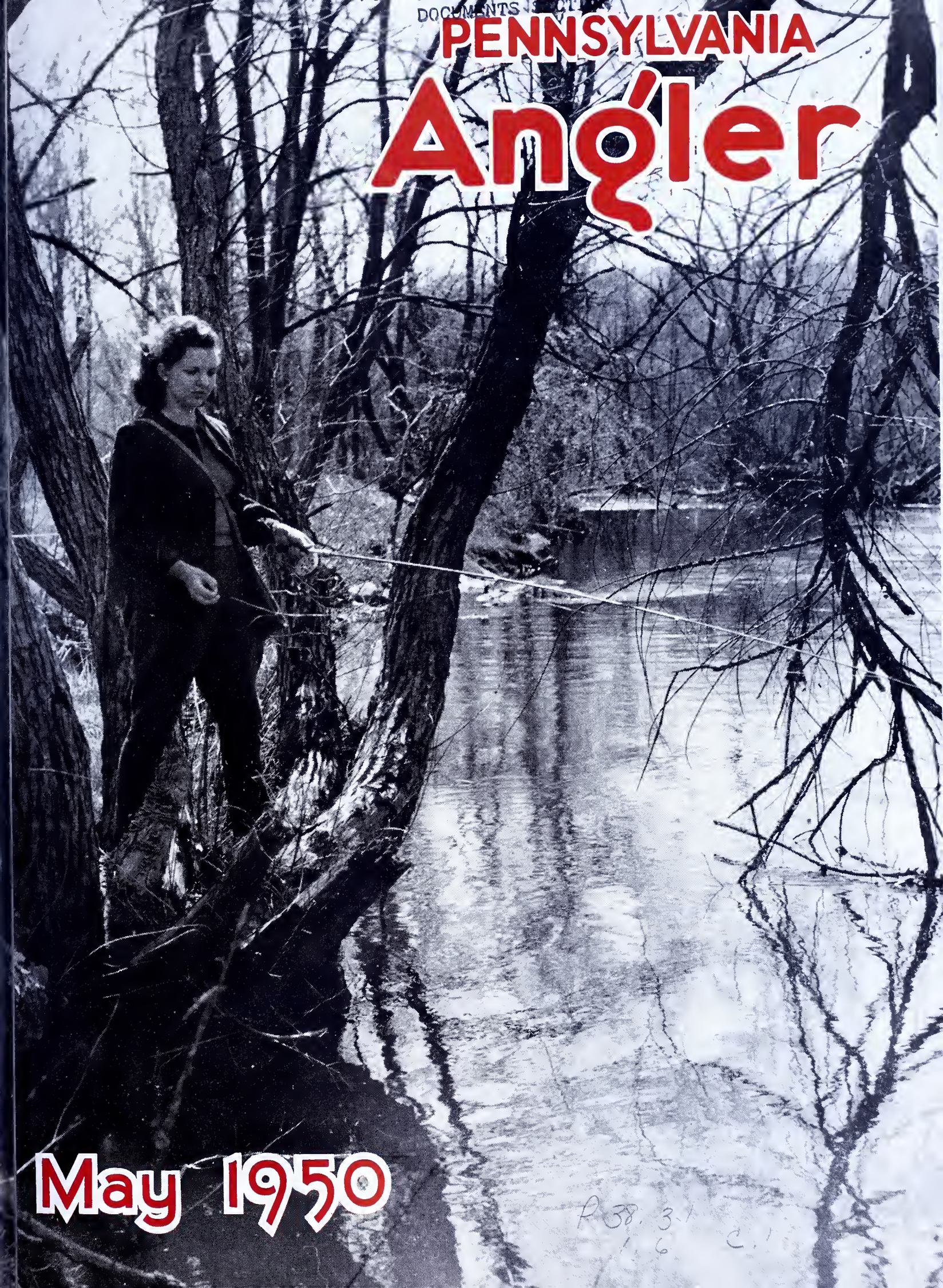

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The rush of cold clear trout water. Foto by James Bolog.

Back Cover. Stocking trout in meadow stream—Lebanon County. Foto by Lebanon Daily News.

The Making of an Angler

By Jim Hayes

THERE is a romance to trout fishing. The prospect of spending a day astream never fails to thrill the true angler. It is a thrill many of our present-day fishermen rarely know. For true sons of Walton seem an uncommon race in these times. Besides, one does not become a real angler overnight. There are stages through which one must pass.

After mastering trout-ways and casting, one may be called a fisherman. Some men become fishermen and anglers at the same time. Some never become true anglers. It seemed the latter might be true in Bill's case.

Bill, though new to fishing, was skilled in the sport. He had coordination, patience, everything it takes. Yet for all his expertness, Bill was no angler.

An angler, by the Warden's definition, is a man who doesn't care how many fish he creels, or the size. It's the prospect of better fishing tomorrow that counts. He has a respect for nature, and courtesy for his fellowmen. Call it a sense of fair play and sportsmanship. However you define it, Bill didn't measure up.

Because he measured success by the number and size of trout he caught, Bill took pride in making limit catches. Fishing was a game, and nothing counted but racking up a score. If the law said 10 trout, that meant you kept fishing until you had 10 trout.

Essentially, of course, Bill wasn't a bad egg. Honest, law-abiding. A Pirate fan. The kind of fellow you'd meet at the country club, in church, or on a trout stream. Sure, and he had his rugged days, too.

Like the time he raised a dandy trout, muffed the strike, and waded to shore to rest the fish before casting him again. Another man saw the action. Brushing past Bill, he whipped the pool so hurriedly the trout went down for good. When Bill cooled off, we reminded him that he'd pulled the same trick himself.

Then too, Bill had a cute way of assembling his gear as we drove to the stream. He was always first man on the water. It might have gone on forever, except once we hid his rodtip. Had a peaceful hour's fishing before he found it. A mean trick, sure. But he had to learn.

Linn Run was Bill's idea of a perfect trout stream. Always opened the season there, and always took his limit. About mid-season he returned to the Linn to fly-cast. After two days without a rise, he came home. Said he couldn't figure what was wrong. But he knew. Too many fishermen, and not enough trout. Too many limits. The stream was fished-out.

Bill's favorite pool was below King's Bridge on Laurel Hill Creek. He liked it because it was secluded, and always good for a trout or two. One morning he found another man on the pool. The guy was catching trout, but nothing big enough to keep. So he tore them roughly off the hook and threw them back. Already the pool was swirling with dying trout. But Bill couldn't say anything. His own touch was far from light when it came to releasing small fish.

It was things like that, little things, that started the change in Bill. He wasn't so feverish about being first on a pool anymore. Was satisfied with three or four good trout, instead of trying for a limit. He began to notice the beauty of the streams he fished. Even lined his creel with fern and wildflowers. The Warden showed him how to unhook baby trout

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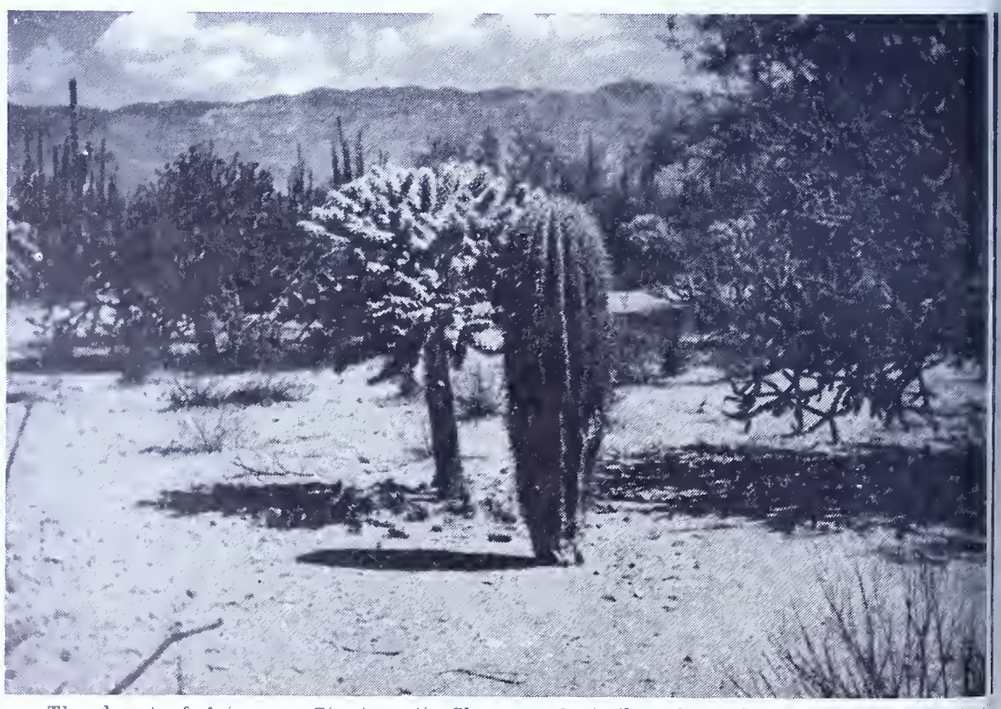
Ecological Sense or Nonsense (III)

By ALVIN (BUS) GROVE

ALTHOUGH ecology may be abstract in part, nevertheless there exists a close relationship between it and conservation. In its broadest sense, ecology has to do with the distribution of things in relation to their environment, and when the study is made and the facts are in, the results may be good or bad in the light of conservation. It is just as possible to study the ecology of an acre of land stripped in mining as it is to study a stream that has undergone the maximum of improvement. In the one case conservation is at its lowest ebb and in the other perhaps at its peak. It is probably correct to assume that the ecologist with the results of his ecological studies provides an intelligent background of facts on which sensible conservation can be practiced. In one way conservation means to preserve and to protect, and in a rather narrow sense it might even mean to resist change and to maintain the status quo. In a broader sense conservation has come to mean that we intend to harvest the natural resources, which have been put at our disposal, but to harvest them intelligently, with one eye on the present and the other on the future. Worthwhile conservation practices would not destroy one resource while preserving another. It is unfortunate in a way that conservation can mean several things, because the too common result is that everyone can be for conservation just as they might be for larger salaries, but no one does anything about it. Perhaps our present dilemma is that what turns out to be everyone's business is really no one's business. Certainly in the field of sports, that is, hunting and fishing, conservation has come to mean a method of harvesting as much of our game as possible while preserving a sufficient quantity at all times to guarantee the future of the sport. In only a few cases do conservationists become strict preservationists in that they would save everything now and harvest nothing, and yet the step from one to the other is not so distant as it might seem at first glance.

The practices of conservation attempt to control and establish certain ecological conditions, which in turn determine the distribution of life within their sphere of influence. A practice of conservation may prevent the pollution of a stream with waste materials, which in themselves do not directly kill fish, but will because they stimulate the overdevelopment of bacterial growth in the water, lower the oxygen content a per cent or two, and in so doing prohibit fish from living there. There are many well-meaning conservationists, who dump such refuse into our streams, honestly feeling that the waste is not detrimental to the life in the stream; and they are right so far as its immediate effects may reach, but they do not stop to think that they might be upsetting some fundamental ecological condition, which in the end will operate to the detriment of some form of life. We remove cover from the banks of streams and feel that we have not hurt the water since we have not touched it in any way, and yet with the removal of such cover the temperature may rise a single degree, but just enough in this case to become an ecological factor limiting the distribution of brook trout. I have read much about the bounties and the beauty of nature, but quite to the contrary nature is ruthless and tough and exacting of its inhabitants.

The fields of ecology are many and varied. The distribution of plants in relation to their environment is called plant ecology, and on the other hand there is animal ecology. Of the two, I think plant ecology is somewhat more fundamental because all ecological studies have shown that the distribution of animals is directly related to and dependent upon the plants. Food and cover become two fundamental prerequisites of animal distribution, and in nature these are essentially supplied by plants. Plant ecology is attacked from both the physiographic and edaphic factors. The physiographic factors are essentially t studied and recognized as natural nomena, which influence the dist tion of plants and in turn ani Such things as, temperature, rai altitude, slopes, incident radiation, prevailing winds make up the fie physiographic ecology. Edaphic st pertain more particularly to the The origin of soil and the type of ent rock from which it was der its richness, humus content, drai texture, and structure are all co ered in the soil's influence on the tribution of plants and in turn life. There are the fields of plant animal geography, which although are similar in many respects to ec and in last analysis dependent the smaller units of ecology, cover problem of animal and plant dist tion on a world wide basis; or if smaller basis, they are probably s rated largely as the result of phy geography. Bioecology studies th fects of one form of life on ano It is bioecology that we undertak control when bounties are paid on declared predators as the fox weasel, Sharp-shinned Hawk and G Horned Owl, the gar and barricud think it is the bioecological rela ships of man, as an animal, to our ests and to our deer and trout many sportsmen's clubs talk ab Laws and regulations are passed the legislature, and amendments resolutions are sponsored by the erated Sportsmen and the Nati Wildlife Group in an attempt to trol and keep in check this same



The desert of Arizona. Giant cacti, Choya, and similar plants indicate the water limitations of such areas. This same dry, sandy land would likely produce crops under irrigation

Typical Eastern United States deciduous forest type and farmland. Annual rainfall probably about 35 inches in sharp contrast to the 7-10 inches of the desert country. Elevation about 2[illegible]0 feet.

cological pattern. Of course man, as animal, in this picture has probably caused more trouble than all other animals and certainly plants put together, and yet who would deny that man has also made the most progress. When the relationship between one man and another hardly deviates from the [illegible] of ecology although it masquerades under the name of sociology. That a snap real conservation would [illegible] the bioecological relationships between man and other animals, man and [illegible] and indeed man and man could be solved. As a matter of fact not only could the problems of conservation be solved but so would all other problems as well. Today in our conservation practices we are trying desperately to undo the damage of certain ecological relations that existed and were practiced in the past, with man the main offender in the destruction of our timber, our game, and our fish. At the same time we are trying to establish better ecological relationships by passing laws and riders, amendments and acts, and various [illegible]es establishing bag limits, size limits, seasons, and so on. These two practices of correction deal largely with changing the past and the present with some effects left over for the future; but if we really want to cope with the future, we must deliberately plan for it and not let it happen only as a by-product of the present.

Two rather special phases of ecology, which we hear a great deal about at the present time, are forest ecology and the ecology of arable land. Forest ecology is good forest practice. As the forest nursery programs encouraged by the states and the farm woodlot programs practiced in Pennsylvania, New York, and many other places. It is the reforestation of large areas cut over by the big lumbermen and the replanting of areas dug out by the power shovels in strip mining. We are making progress in this direction, and many are acquainted with the facts and benefits of such practices. Perhaps to some lesser extent we know something of those practices followed on our farms or arable lands. To be sure we have all heard of the dust bowl, strip farming, contouring, and wind breaks. Some of the things we, as conservationists, do not usually associate with our farm lands are: How many tons of lime are added per acre per year? Are winter cover crops grown? At what season is most of the plowing done? Are we using enough commercial fertilizer and manure? Do we inoculate our legumes when they are planted to increase the nitrogen content of the soil? The list could grow indefinitely. These, although seemingly far removed from the problem of conservation, are not very far removed after all, and a little inspection would reveal their importance to you as a hunter or fisherman. Proper lime application coagulates soil particles and eliminates many wet spots so that better crops can be grown. In eliminating the wet spots, soil drainage is improved, and more of the rainfall, which strikes the soil, penetrates and does not run off in streams of mud. Winter cover crops prevent soil erosion, provide some organic material to the soil, and while present, make good cover for our game. More nitrogen makes better crops, not only corn and oats but better grass and pasture as well, which in turn prevent run-off of much needed water and provide food and cover for a good animal harvest as well as plant. The point which needs to be made is that everything that the farmer does or does not do, the lumberman does or does not do, the miner does or does not do, the engineer does or does not do, influences in turn our water, our erosion, our fish, our animals, and in the end, of course, even ourselves. Is it any wonder that the problems of ecology become enormous, involving many of the branches of science, which we so politely and sometimes so casually divide into their own little place and sphere of interest and influence? As sportsmen, we must concern ourselves with plant ecology, animal ecology, forest ecology, bioecology, and the rest of them as

(*Turn to Page* 16)

Rocky mountains in Colorado. Elevation from 7,000 to about 14,000 feet. Pine and spruce at the lower elevations and to timber line. Tundra or bare rock cover the higher altitudes. Long's Peak in the background.

WHIPPOORWILL

By E. E. Apel

FROM far up the rain soaked valley came the plaintive, wavering call of a whippoorwill. "Dave" paused in his rendition of the then current tale of two traveling men and a farmer's widow. He held up a silencing finger. We all listened. The nocturnal interruption to the joke telling was reiterated.

Dave asked, "Do you know what that means?"

We, Ned and I, admitted we knew naught as to the significance of the call.

Our interrogator elucidated, "It's like this—you've seen barnyard fowl start out in what appeared to be a steady rain. In a few minutes the rain stopped. Somehow they knew it would stop. Well, my guess is this, our whippoorwill knows this rain is going to stop—so he 'tuned up.' If it clears now the creek ought to be just right in the morning. That means good fishing. We'd better get some sleep. Goodnight."

The dispenser of logic rolled over to his side of the station wagon and was quiet. Ned and I finished a smoke before following his example. Sleep was slow coming to me. I thought back over the events of the day—a late start, the long drive through a steady rain, the unfavorable reports of fishing conditions we had overheard at the last restaurant. But Dave had now prophesied we would get a break. Maybe so; the constant rain drip on the station wagon roof did seem to have slackened.

When I awoke, day was beginning. Far to the east the sun was shafting light over the Snowshoe Mountains. On the right a squirrel barked. From streamward a cardinal whistled. Soon we would learn if Dave's forecast was accurate.

I nudged Ned. His left arm came up and he peered intently at his wristwatch. Then he sat up and spoke to Dave, "Wake up, time to get out and see what shape that stream is in, 'buddy'. I sure hope your whippoorwill hunch is correct."

Dave pushed up onto his elbows, gazed out the window towards the Snowshoes, then classically remarked, "I'm hungry."

In this statement he voiced my feelings. I proceeded to do something about correcting that situation. The grub basket and thermos bottles were within easy reach. Seconds later, steaming coffee had been poured and thick sandwiches passed around. There was no lost time or motion in the appeasement of appetites.

Following our quick breakfast we 'tidied-up' the station wagon. While so doing, we discussed how very nicely it accommodated us. A camp on wheels. Plenty of sleeping and carrying space for three fishermen, their grub and other equipment. Also, no restrictions as to where we could fish. This vehicle eliminated the limitations usually encountered by operating from a base camp. For once, we three fishermen were in agreement—a station wagon was the answer to a long felt need. As Ned put it, "Here we are, if this stream isn't in good shape we just drive on until we find one that is. Even if it is a little brook trout run. We have reversed the old set-up. The water near camp doesn't have to be right. We take the camp to the water that is right. Let's go and see if this creek is OK for today."

The stream was not far distant. We took our time reaching it for the path was overhung with still dripping branches and hip-high fern. We didn't want to get soaked before starting to fish. Carefully maneuvering our way through the wet cover, we reached the stream—it appeared to be "just right."

Hopefully I said, "Dave, I believe your whippoorwill knew something—this stream certainly looks OK."

Dave replied, "It sure does. No hatch just now and the stream has been coming up. I'm going to try some small streamers. What are you fellows going to use?"

D. Thompson displays a nice rattler killed along Mosquito creek.

"I'm going to experiment with some big nymphs up about the middle of this pool," came from Ned.

I wasn't in any hurry to rig up and told my partners I would walk up stream—that I'd keep back from the good spots and not begin to fish until I was beyond the Butterfly Rocks. I knew they'd catch up with me by noon and as on all previous trips up this waterway, we'd lunch at Cold Fork. This small springfed tributary is an ideal spot. The water tumbling into the main stream is surprisingly cold, noticeably sweet and very refreshing.

My way upstream was made in a leisurely, observant manner. Rounding a wide bend, I came upon a doe with twin fawns. It was amazing how easy they made their way along the rocky creekside. Unalarmed, the doe proceeded to a narrow portion of the water and nimbly leaped across. Without hesitation, the fawns followed. Soundlessly they vanished into the stream-bordering rhododendron. Just beyond where the deer disappeared there is a long, straight piece of stream. This day, it was beautifully decorated with blooming shrub honeysuckle and a wild species of snowball bush. The white and pink color combination greatly enhanced the natural beauty of this wild valley. After passing this colorful spot, I located that for which I had been constantly watching—*on the wing.* They were of a genus common to this area and nicely imitated with a Furnace Quill. Now I hurried. With flies in the air, I wanted to get beyond my designated starting point and get some imitations floating on the water.

As I approached the mineral-bearing rock outcrop known to us as Butterfly Rocks, I again noted with interest the swarm of butterflies that constantly flitted and crawled about the seeping fissures. It is my theory they are drawn to this spot by an available body requirement that is easily acquired, due to the soluble nature of the seepage. On this morning, the butterflies were not the only visitors to the outcropping rocks. There on a narrow ledge was a huge groundhog. He was contentedly licking one of the largest and wettest seams. My felt-soled boots permitted a soundless approach and the groundhog was not aware of my presence until I was directly across stream from him. Except for a flattening against the rocks, the animal did not move. Quickly I passed, hoping not to further interrupt the old fellow's unique actions.

Having arrived at this starting place I was anxious to begin fishing. Fly stringing required only a minute and

had a fair idea of the fly the trout ould be taking. Soon my Furnace uill was jauntily drifting over the st looking runs and glides. A carefl covering of this beginning stretch oduced only exercise and casting actice. Then, coming to a slight rve in the stream where the outside nk was undercut and overhung with ders, action developed. The fly opped above the bushes, floated part ay under and, socko! I was fast to y first fish of the day. By slanting e rod side-wise until it was level th the water, I managed to keep the der below the entangling branches. I took considerable rod pressure to t the fish out into open water. With termined jolts the trout endeavored t get free of that stinging hook. erything held and I finally slipped e net under an eleven inch brook out.

I decided to do some investigating fore resuming activities, so waded hore, cleaned the fish and examined e stomach contents. It was crammed th flies, nymphs and a big beetle. ese clues as to the trout's feeding ttled any previous doubts. I would ntinue using the Furnace Quill for e time being.

Action suited the thought. The fly as dressed, the leader doped and other cast was made above the ders. The floating imitation was ain socked and the preceding scrap as repeated—almost exactly. When was over, the twin of the first trout eamed in the creel. Other floats over d past this ideal spot were non-proctive. I moved on to a stretch of ter which is a series of fairly deep les, connected by short rapids.

In the first pool, I located three feedig fish. Two were out into the tail, e other was working well up in the ol alongside a jutting side boulder. A ppy cast moved the two trout from e pool tail. With greater care, line as worked out and a slack-line cast opped just behind where the third h had shown. The Furnace Quill ated several inches, then was gone a whirling surge. The line stretched this trout had hooked itself. A good e developed in the rod as the fish, in deliberate manner, swam straight o the rapids and there sulked. I ured it was taking refuge in a deep cket of the swifter water. Steady ss current pressure moved the fish. I darted into the pool above. My mbling follow must have jabbed e hook deeper, for the fish began to p and thrash in a spectacular manr. These wild tactics revealed the ut as a rainbow of hefty proportns. The acrobatics subsided. With shing speed the trout rushed about e pool, and then, after a last swift thrust up the rapids, turned on its side and came to net easily. This valiant warrior, a good fish in any Pennsylvania water, had practically killed himself on the hook. Wading ashore with my prize, I experienced that feeling of supreme exhilaration which accompanies the taking of a heavy fish on light, dry-fly tackle.

Ashore, I laid my trophy, still in the dripping net, among a cluster of young fern. Here was a picture, and I could not record it, except in memory. However, in an effort to preserve the freshness of the trout's brilliant coloring, I hurriedly retraced my way downstream to where a spring run entered the main stream. This rivulet was full of cold water moss. I lined my creel with this preserving plant and laid my rainbow in, covered it with the spruce tips I had used to keep the brookies apart, placed the brookies on the spruce and covered them with more moss. Then I dipped the packed creel into the cold spring water to saturate the contents. I hoped this procedure would keep the trout bright until my buddies came along.

A smoke was in order and I used up a pipeful in placid content. While so doing, a line of "The Lark" came to mind—"All's right with the world." And so it seemed, for in the least measure, here was a communion with nature.

Such was my feeling of fellowship when I resumed fishing and although a lull in activities developed, it continued. I worked over some beautiful water with nary a rise, or even a sign of a trout. When I arrived at Cold Run, without having increased the weight of my creel, the fine sense of satisfaction still prevailed.

Soon Dave arrived. We compared creels. He had five dandy natives and had released as many smaller ones; my rainbow drew an astonished whistle from Dave. He looked at me and inquired, "Did you take that fish on a dry? If so, I'd like to have seen the battle, for that fish is a honey."

After repeating the facts as to the taking of the rainbow, I inquired about Ned.

Dave answered, "I left him at the Blue Hole. He had located a big trout feeding, and if I know Ned, he'll stick around there 'til he catches or upsets that fish. Let's eat and figure out some plans."

While we lunched Dave told me about how the brook trout had hit for about two hours and then quit. Ned had experienced the same thing. When I added that I had taken my two brookies shortly after starting to fish Dave said, "That settles it—seems as if at a given signal along the stream the natives just stopped feeding; none of us have hit a brown and only one rainbow, why? I don't know, but it's my guess the brownies are going to put on a *go* signal towards evening. I suggest we walk down stream, pick up Ned if he agrees, go to the station wagon, get rested and be all set to go into action around six."

The plan was put into action and going downstream we did not spot a single rise. Ned was still at the Blue Hole and informed us it had been *dead* for two solid hours. Dave outlined our plan. Ned rejected it, saying, "If what

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Mosquito Creek, Clearfield County, this is cold run pool looking downstream.

FRISKY FALL-FISH

By Don Shiner

TIRED of being cramped and shoved by the stampede of anglers along your favorite trout and bass stream? Devoting some of the angling time to the more 'common' fish would disperse many of the anglers and the sport derived should not be under estimated.

The fall-fish is one of the more common fish found inhabiting nearly all the larger trout streams of Pennsylvania. In the days of yesteryear, these fish were quite rare due to the indiscriminate taking of the fall-fish, through the use of nets, the small fry used as bait fish, and the pollution of our streams. However, they have made a steady comeback and are again perpetuated to the point where they can stand considerable angling pressure.

They are one of the largest of the minnow family, and grow to the length of 18 inches quite rapidly. Some specimen have been captured which measure over two feet in length. A fish of this size is capable of giving considerable resistance and one that any angler can be proud of capturing.

These graceful silvery fish congregate together in the deep pools and eddies and frequent the swift riffles occasionally. They are constantly on the alert for food and seldom will refuse the offering of an angler. Their diet consists of a wide range of aquatic foods, such as, hellgrammites, crawfish, salamanders, worms, as well as grasshoppers, crickets, beetles and occasionally a mouse. They are particularly fond of white millers and white grub worms. This preference for white baits should be remembered when selecting artificial lures, and the white colored or white predominating colored lures are excellent.

A variety of spinners and flies are "top" lures for Fallfish.

The fall-fish will rise readily to a surface lure, and strike with equal zest at a darting spoon, spinner, streamer, or wet fly. They are far from being selective such as the trout or bass and will accept a wide range of baits and lures, presented at most any time of day.

On light tackle they exert considerable resistance and surprise even the most addicted trout and bass angler as it often breaks water with a sounding smack and tugs furiously to dislodge the stinging hook.

While most fishermen becoming acquainted with this game of angling through the pugnacious pan fish, my early angling encounterments were through the fall-fish. My home being near some trout streams, I recall the many spare moments spent 'dunking' worms in the pools and eddies. Occasionally a small trout was captured but more frequently were some small fall-fish, with now and then a sizeable specimen overlooking my crude methods and accepting the bait. I recall the sheer pleasure it gave of pulling a silvery chub from the water and I usually ran to the nearest person to exhibit my prize. Even today I frequently sneak away from the angling crowds and spend some time in pursuit of these graceful fall-fish. Often too they have been the cause of a heavy creel when the more 'aristocratic' game fish were uncooperative.

The light tackle commonly used for trout, such as a light action rod, 3X or 4X tapered leaders and various small artificial lures, is ideal tackle for fall-fish angling. However, depending upon the type water, a varied selection of artificial lures are required.

Only in the shallow water can they be enticed to accept a surface lure unless they are cruising in the deeper water close to the surface. This holds true for the various other game species since the depth of water obscures their vision. Obviously in the deep pools a spinner, wobbling spoon, wet fly or streamer can be used successfully if it is allowed to sink nearly to the bottom and then retrieved causing various actions.

I recall one day when Steve and I encountered some water which contained some sizable fall-fish. I had made numerous casts using a spinner and fly in one particular pool and had quickly taken three nice specimen. All were released except one which had the lure hooked deep in its throat and probably would have died. Repeated casts netted a blank, and I assumed

The graceful silvery sheened Fallfish are on of the largest of the minnow fish. Some have bn captured which measured over two feet n length. Truely a fish that should not be frow d upon by anglers.

that I had taken the only ones in e pool or had scared the remaining os into hiding. A few moments lar Steve appeared and I encouraged h to make a few casts in this particu r pool. He quickly made a cast tl t went every bit the length of the p l and began retrieving the small red a l white wobbling spoon. Nearing e end of the retrieve something stru and nearly pulled the rod from Stev s unsuspecting hands. It was a fu grown fall-fish, larger than any of e three I had taken. It had refused offering due probably to the third f being taken, he had learned that it vs a fraud and something to be passed . Again it may just have emerged fr its hiding place as Steve's lure dart by. Whichever it might have be it can be said, fall-fish require an casional change of lure too.

Using wet flies and nymphs and t same tactics used for trout often p duce nice fall-fish catches. The w flies should be large and quite bus and rather light in color. White mill light cahill, and McGinty are excelle patterns. These should be cast and across stream then allowed to fl naturally with the current, or th may be cast into a pool or eddy, lowed to sink and then retrieved short jerks.

The typical artificial lures carri by the average angler are ideal lur for these fall-fish.

If live bait is chosen over artific lures, any of the previous mention baits will be acceptable. Howev there are a few pointers which the b fisherman should keep in mind.

Often when using grasshoppe crickets, grub worms, and the lik merely placing the hook through t insects body often results in the b being torn from the hook during t cast with exasperating ease. This c be eliminated by making up a few b

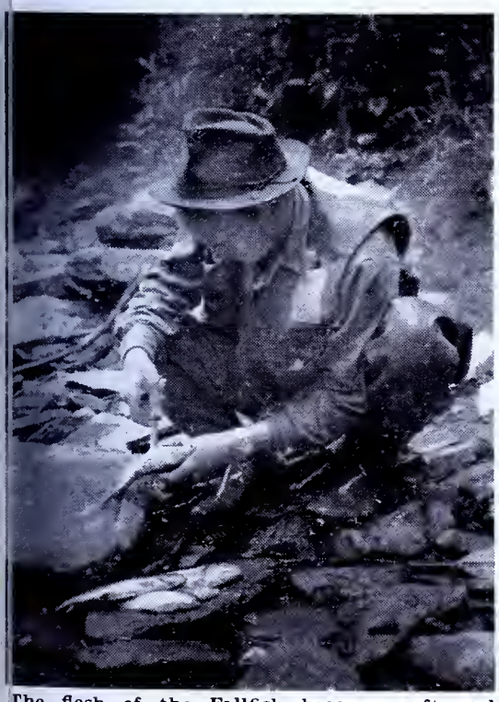
Kill Less—Catch More

oks and keeping them on hand. ese are made merely by soldering o small pieces of wire to the shank a fairly long shank hook. (see illustation) The bait is then placed along e shank of hook and wires wrapped ound the insects body.

The bait can then be cast in the manr of fly fishing and little harm can be one to the bait. This method too ows the bait to remain alive and me baits will float unless a few split ot are added for weight. Fall-fish ll rise readily to the surface for a asshopper or cricket. The rise is in ll view of the angler and cause a deht close to that of a trout rising to dry fly.

One handicap to this fish is in warm eather, the flesh of the fall-fish will come soft. This, however, can quick- be overcome by cleaning the fish ong the stream. They can be scaled d entrails taken out soon after capre. Placed thusly in a willow creel led with damp grass, the flesh will main fresh and firm. This fish is ther bony, but aside from the large ckbone and bone structure protectg the vital cavity, the small bones e extremely soft. They are a tasty h and should not be passed up as od.

In the pursuit of angling, the entire gling time should not be spent for erely game fish. Using light tackle d suitable baits and lures for the ore common 'low brow' fish, they can ake an outing enjoyable, not omitting e fact that often the day can be rned into success which otherwise ould have been a failure from the out and bass being uncooperative. y both live baits and artificial lures r the frisky fall-fish and enjoy a well unded out angling season.



The flesh of the Fallfish becomes soft and bby during warm weather. This can be overme by cleaning the fish along the stream.

Sportsmen's Club Pays Honor to Governor Duff

Shown above are those who participated in the presentation of the Farmer-Sportsman Club, Berwick, annual conservation award to Governor James H. Duff in recognition of his "Clean Streams" program in the state.

From left to right are: R. Clayton Culp, burgess of Berwick; Anthony Green, vice-president of the Farmer-Sportsman Club; Robert Downs, president; the Honorable James H. Duff; Nelson Walker, district manager of American Car and Foundry Company, Berwick; Lewis C. Smith, Chairman of the Conservation Committee; William Reiter, vice-president of the Pennsylvania Railroad; Dr. P. M. Szutowicz, secretary-treasurer of the club.

At a splendid banquet held in honor of Governor James H. Duff, the state's first citizen was awarded the Farmer-Sportsman Club's annual conservation award in Berwick on March 22.

The award was in the form of a gold plaque reading: "Annual Conservation Award, presented to The Honorable James H. Duff, Governor of the Commonwealth of Pennsylvania who has faithfully defended from waste the natural resources of our state, its forests, waters and its wildlife."

Lewis C. Smith, Conservation Chairman, made the award in behalf of the club to the man "who in the opinion of this club has done the most in 1949 in the state toward conservation."

Robert Downs, club president, gave the address of welcome in which he gave credit to Smith and Dr. P. M. Szutowicz for their efforts in making his administration a success.

Governor Duff gave an excellent talk on conservation in which he emphasized that "we must work to present this state in as good condition as that in which we found it to the next generation."

Nelson Walker, district manager of the American Car and Foundry Company, presided as toastmaster.

Large Attendance at Susquehanna County Sportsmen's Banquet

The recently held annual banquet of the Susquehanna County Federated Sportsmen's Clubs was attended by 337 persons.

Howard Maynard, county prothonotary, was toastmaster at the affair.

Proceeds of the banquet will go to the Marford volunteer fire company.

About 150 prizes donated by county merchants and by sporting goods companies were distributed.

Hamlin Stephens, Harford, was chairman of the affair. Linus Moore, New Milford, is president of the county group, with L. F. Smith, Lawsville, vice-president.

Notables present were: Keith Harter, Max Knoll, and Harland Reynolds, all Fish Wardens, Howard Hoffman, Philip Sloan, and Arthur Foote, of the State Game Commission.

Unique Plan Warns Sportsmen

Thousands of red tags, the same size and shape as those handed out for a traffic violation, are dangling from twigs and branches of trees along the streams, creeks, brooks and smaller water courses of York county. The unique project, sponsored by the York County Federation of Sportsmen's clubs, is to remind fishermen that those streams are closed to all fishing from March 14th until April 15th, at 5 a.m. The eye-attracting tags are being distributed by clubs affiliated with the county units.

"Attention Fishermen," reads the tags, "No fishing in this stream from midnight of March 14th until 5:00 a.m., April 15th. By special amendment to the fish laws, passed by the 1949 legislature. This law also prohibits the taking of live bait during the same period."—*Federation News*

MUD!

By Don BLAIR.

THERE are, I suppose, many many kinds of mud. Let me be the first to confess, as a nature student, that I traveled a long road down the first half of this twentieth century before I became aware that mud was, or could be, interesting instead of exasperating.

Most of us, fishing, are prone to accept mud as one of the minor nuisances of the sport, as we accept mosquitos or snags or slippery rocks. But when we stop to think about it, we may realize that mud or muck is nothing more than a combination of soil and water. And soil is the base from which all life springs. Scientists tell us that our lives depend upon grass. Most of us can understand the cycle of mice eating grass roots, and foxes eating mice, so that if there were no grass there could be no foxes.

In fishing the cycle is the same. Grass grows in water or in muck or mud just as it grows on well drained soil, excepting that the plants have developed different forms and characteristics due to differences in environment. Algae are the common grasses of pond water.

And algae is the foundation of grass upon which fish life rests. As with the foxes and the mice, so the bass eats the minnow that ate the insects that fed upon the algae.

Now we know that algae and bacteria cannot grow in pure, that is to say, distilled water. All plants and animals must have food. H_2O in itself cannot provide food. It is the medium by which food is carried to and through plants. Thus the mud along a stream or the muck at the bottom of a pond is the storehouse for the food supply that controls the whole cycle of life in the water. If the storehouse is empty the algae cannot flourish, and the insects will starve, and the minnows and the bass cannot exist. When you get right down to the bottom of it, mud is the stuff that determines the size and quantities of fish we catch.

Now some of the necessary chemicals used by the algae are directly dissolvable into the water, as, for instance, lime. Others, like nitrogen, must be fixed by bacteria before they can be utilized as plant food. Pick up a handful of mud along the water. It doesn't look like much, does it? Yet it is teeming with life. In an ounce of it there may be upwards of 50 million microbes living, eating, dying; each busy at his trade. Some cause decay, and transform dead vegetation into new plant food. But, and be sure of it, there are millions of living things in a handful of mud, and they are all busy.

Scientists have discovered that some of the byproducts of the labors of these microbes or moulds or fungi are used as drugs. Penicillin was one of the first of several such drugs. Other useful medicines have been discovered—they call these things anti-biotics—in the world of teeming life of these soil organisms. Streptomycin, aureomycin, chloromycetin; these new drugs come from some of the millions of unseen living things you may hold in your handful of muck from the water's edge.

As some of you know, I have had a long (and time consuming) interest in beavers and beaver ponds. Originally it was the fish and the fishing that led me to seek out hidden ponds. I soon noticed that wherever the beavers established a colony it became a sort of focal point for practically all the other wild creatures in the area. And in country where I knew my way around, that is, country I had hunted and fished before the beavers moved in, I became convinced that not only was the new pond a center of activity, but that there was a definite increase in both numbers and vigor among the creatures of the forest living nearby.

Too many times to be coincidence I noticed increases in the woodcock population, and in ruffed grouse and cottontail rabbits. I've seen colonies of cottontails develop where none had been before. Lately I have discussed these observations with several experienced field men employed by the Pennsylvania Game Commission. They are unanimous in agreeing that pond water is a boon to small game development. Most of them had arrived at this conclusion just as I had, from observation in the field. But we didn't know why.

We were not, however, the only people who questioned these things. Agricultural scientists have been working hand in hand with medical men in this anti-biotic business. They have lately come up with a discovery that ties the whole thing together. They talk about "animal protein factor," the thing that turkeys, chickens and pigs must have to grow strong and healthy. And in this they know of a vitamin (B_{12}) that may revolutionize the whole field of hog and poultry feeding on the farm. This B_{12} is the thing that controls pernicious anemia in humans. It is present in liver extracts that are used to treat anemia.

These agricultural men knew for a long time that baby chicks grew better on built-up litter—that they got some unknown nutritional factor from the

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The vigor of the grasses is apparent.

THE RAINBOW TROUT

Edited by

Lou S. Caine

THE robust rainbow trout is not only one of the most beautiful members of this romantic family but also one of the most spectacular and satisfying performers. Its fast and powerful runs interspersed with breath-taking jumps make it a favored individual with veteran trout anglers.

For many years the rainbow trout has been confused with the steelhead trout and until recently the rainbow and steelhead were regarded as two separate species. Scientists now agree that these are one and the same fish—the steelhead merely being a rainbow that has migrated to sea.

In the past, it has been a general custom to call any trout that has migrated to sea a "steelhead." This included cutthroat trout, Dolly Varden trout and even Eastern brook trout. To remove confusion it is recommended that the term steelhead be reserved for rainbows, and rainbows alone, which have migrated to sea or larger bodies of water.

Rainbows that migrate from streams and rivers to large landlocked freshwater lakes are called steelheads in some sections of the country. The rainbow, including the steelhead clan, is the most widely distributed member of the trout family.

The rainbow possesses the migrating instinct more than any other trout, and does not like to "stay put." This, coupled with the fact that it can survive in warmer water than many other trout, accounts to a large extent for its wide distribution.

The color of the rainbow trout found in freshwater streams and rivers varies greatly but is generally a bluish or olive green above the lateral line, shading into a silvery green on sides. Sides, tail and dorsal fins are profusely spotted with small dark spots. A wide lateral band of lavender red runs along the sides from head to tail. Lower fins are dusky or whitish.

When the rainbow migrates to sea and becomes a "steelhead," the vivid freshwater coloring fades, the entire fish assumes a light, steel-blue or silvery sheen and the dark spots become quite indistinct. The sides take on a pinkish cast and the bright coloration of the lateral band is not so conspicuous. Upon returning to fresh waters the "rainbow" markings again appear.

While the rainbow trout originally was a westerner, found only on the Pacific slope of the Sierras, from California to Alaska, it now has been successfully introduced into nearly all states except the southern part of those bordering the Gulf of Mexico.

Due to the fact that its eggs stand shipping unusually well, it has been successfully transplanted in Europe, Asia, Africa, Australia, New Zealand and South America. The sizes and numbers of rainbows taken in New Zealand and Chile are astounding.

Although the rainbow prefers the larger swift-flowing streams of the West, it does nicely in the smaller streams of the East, provided they have fast water and are not too small. The rainbow loves swift water and will be found in the fast stretches rather than the slow-moving currents.

Fish for them at the edge of strong currents and at the head of rapids or under overhanging banks where the current is swiftest.

The world's record rainbow, caught on rod and reel, was taken by Wes Hamlet in Pend d'Orielle Lake, Idaho, Nov. 25, 1947. It weighed 37 pounds.

The size of the rainbow depends almost entirely upon the waters from which it is caught. On small streams the average will approximate 1 pound. In larger streams and rivers, or fair-size lakes, the average weight will be 2 to 4 pounds, and 5 to 6 pounders are not rare.

Sea-run rainbow, or steelhead, that have migrated to sea or to large inland lakes are much larger than those that have not migrated. They will average 6 to 10 pounds, and while 15 to 20 pounders are scarce, they are not unusual.

Insects in the larvae and mature stages, worms, flies, minnows, crustaceans and salmon eggs constitute the rainbows diet.

Fly fishermen find rainbows will yield to the temptation of wet and dry flies in tiny 18 and 20 sizes as well as the larger 6, 8 and 10 sizes; also, streamers, salmon flies, bucktails, salmon eggs, spoons and spinner and fly combinations. Small lures like the popper spook and wilder dilg minnow are ideal.

Plug casters take them on small lures in the ⅜ oz. and under class, like the midget river runt or midgit digit; in large bodies of water where the rainbow reaches giant proportions, large wobbling plugs like Lucky 13 and basser and spoons produce.

For ordinary rainbows, fly rod fishing with either live or artificial bait produces the majority of catches.

Still-fishermen with casting rods take a fair share and spinning rod enthusiasts find this fish ideal. However, for steelhead in large lakes the popular method is unquestionably trolling.

Fly fishing the ordinary streams for rainbows calls for standard fly fishing tackle such as fly rods made of tempered, split bamboo in light-trout or standard-trout actions. Leaders should be as light as possible and the reel either single action like the Imperial, or automatic.

Any standard wet or dry flies ranging from the tiniest sizes up to large streamers will be found alternately good. Small fly rod spoons, bucktails and wobbling lures like the midget river runt are excellent in deeper, larger streams.

Casting rods like the "Pal" in the 5 and 5½-foot lengths, lighter actions, when used with the smaller casting lures like river runts in both floating and diving models, are becoming more

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Typical opening day scene on Big Springs, near Newville, Cumberland County. Several of the largest brown trout recorded from Pennsylvania were taken from these waters.

AMERICA - LAND OF OPPORTUNITY

By William Bo

An Erstwhile German Helps Rehabilitate Men His Former Countrymen Wounded in Combat

EVEN in the manufacture of sports equipment, America is the land of opportunity for the foreign-born. Take the case of Ernie Hille, of Williamsport, Pa.

Ernie, fortunately for himself and for Americans who seek lures that will catch fish, came from Germany to America prior to Hitler's rise to power. He was well established here and every inch an American when World War II burst upon a belligerent world.

And during and after that war Ernie Hille played an important part in rehabilitation of men whom his former countrymen wounded in combat.

When the United States Government hit upon fly-tying as a vocation to be taught wounded veterans in government hospitals, Ernie Hille and his wife, Hilda, bid on the business of supplying kits of fly-tying materials. They won the contract in competition with older and more firmly established firms.

In all, they turned out more than 400 kits, each one weighing 83 pounds and containing enough equipment and materials to keep ten men busy tying flies for a period of 2,400 hours. With that order they had to get larger quarters.

Now it is just in the course of a regular day's business to buy some merchandise in Norway and send it to a customer in New Zealand. In the same day they do business with a farm boy in Ohio, a soldier in the American Army in Germany, and a statesman in Washington.

They have a list of about 6,000 individual customers and 150 stores. They handle 3,850 different items of merchandise, and they prepare and distribute more than 10,000 catalogs annually.

The machine operated by this pretty girl wraps body materials on cards.

But statistics make dull reading in a story about Mr. and Mrs. Hille, whose customers are fishermen.

They deal in the material out of which fishing lures are made—steel hooks from England, Norway and Switzerland, for example; or feathers from India, China, and Japan, or bear fur from Alaska.

They have customers in all parts of the United States, naturally, and also in Alaska, Canada, Newfoundland, New Zealand, South America, Iceland, Denmark, India, Germany, Switzerland, Italy, and Australia.

They deal with farm boys and states-

Girl employes make up orders from the well-filled drawers in the Hille establishment stockroom.

men—and also with doctors, lawyers, hospitals, prisons, schools, and colleges. Most of them are amateur fly-tyers, but there also are some professionals.

The Hilles get a lot of fun out of the human element of their business, for fishermen who make their own lures are a critical lot. They must have feathers of some very particular hue, hooks of just the right weight, and fur that is just so fuzzy and not one bit more.

Sometimes the customer is hard to understand.

Like the fellow who wrote in for materials to make a "Roil Coichen" trout fly. Ernie and Hilda puzzled over this a lot, until finally one of them

Ernie and Hilda Hille study one of the or rs which come from all parts of the world.

began repeating the words out lo l. An employe came up with the answ r. The customer was writing about a Royal Coachman trout fly.

The Hilles got into the busines a dozen years ago when they were liv g in Cleveland. They carried a box of materials in their car, so they co d whip together a lure on a lake or stream.

Their friends became interested a d began buying and borrowing materi s, and Ernie quit his job in a Clevel d factory. He is an expert tool-mak r. In 1940 they began corresponding w h customers in Williamsport. They w t there for a visit.

And that brought the city its m st unusual industry.

The Hilles liked the country so v ll —and the fishing in particular—tha n 1941 they moved to Williamsport a d set up business in their home.

Ever since, business has been br s. Winter is an especially busy per l, for then the anglers can't get to e streams, and they spend a lot of t e making trout and bass lures for e next season. But even in summer e orders flow in steadily, for even a g d angler over a period of time loses r breaks lures and has to replace th n.

So there is a constant stocking a d selling of feathers, fur, yarn, hoo s, tinsel, thread, lacquer, quills, sciss s, vises, and an assortment of s h strangely named items as wing cutt s, whip finishers, and dubbing need s.

Not all of the business is done y

A young customer buys direct from Mrs. Hille at the supply center in Williamsport, Pa.

ail order. The Hilles have a retail ore at their place of business—and ts of sportsmen prefer to call in per-n to make their purchases. They rive from points as distant as Har-sburg, Pittsburgh, New York City, d Washington.

Of course, such a customer slows wn the pace of business.

It takes an amazing amount of laver to close out a deal for a dol-'s worth of merchandise in this kind business.

"That's why we like it," says Ernie th a grin.

There are secrets in this trade, too.

Hilda Hille does the dyeing of athers, yarns, and fur.

Even Ernie doesn't know the formu-s she uses in some cases.

There is one called a rusty blue dun, for example. It is famous all over the country for use on a good trout dry fly.

Others in the profession have tried to imitate the precise shade. But they have failed. And a spy couldn't beg, borrow, bribe, or steal that formula from Mrs. Hille.

The Hilles know what fishermen want. They themselves fish—for trout and bass—at every opportunity.

They own a beautiful and completely equipped cabin along one of Pennsylvania's best trout streams, where they delight in entertaining friends and spend their week-ends. They have no telephone and they don't want one.

"We can rest and relax out there," they say. "And go fishing if the spirit moves us."

orting hackles prior to putting them in pack-s according to size and quality.

Lightly Dressed Flies

By Fred J. Kern

Wet flies, having no wings and but a minimum of hackle, are becoming increasingly popular for trout. The so-called hackle and palmer flies are, therefore much in demand for the experienced fly fishermen. The hackle flies have hackle at the head only, while the palmer have hackle the full length of the body, thus giving them the appearance of caterpillars.

Value of a wingless fly, is that you can operate it with twitches of the rod tip. This gives the hackle life like open and close movements. This cannot be done with a fly having up standing feather-wings. Nymph flies are also becoming more popular. Nymph flies have a plain central body with tuffs at the head and tail. These along with the hackle flies are recommended.

Now take the wooly-worm, it also belongs in the same category. This is simply a palmer type fly with short hackle the full length of its body. Made with fairly stiff hackle so they will not mat to the body. Wooly-worms like many other wet flies can be used with a spinner. A number one spinner is recommended.

Dry flies with wings may rank high in the dry fly fishing, but in wet fly fishing they are passing out of the picture.

Hackle and palmer flies in brown, grey, slate, black and even whites prove among your best flies. The standard brown and grey hackle patterns rank with the best of the killers.

One of my favorite patterns in which I have very good luck, is what I call the grey hackle quill. Here is how I tie the above mentioned. On a number ten or twelve hook, two or three grey hackle fibers for the tail, peacock quill body and a small amount of grey grizzly hackle at the head. I use same wet, and can be used any time of the day or in the evening.

In fly fishing you have a number of things to remember. One is having well balanced equipment, with the rod having fairly good backbone. It is not necessary to have an automatic reel or a tapered line, altho if you have, it makes it a bit easier for the fishermen.

In buying a double tapered line, I would recommend a HFH for rods ranging seven and one half feet to nine, and weighing four to five and one half ounces. For the same rods in a level line a D line would do the trick.

Dry fly leaders range, generally nine to twelve feet long and tapered from .016 to four X. These are various graduations in dry fly leaders, according to the size of the fly.

Wet fly, level leaders range, generally six pound test to one X, in the same diameter the full length of the leader.

Your smaller test leaders are used where the streams or lakes are fished hard and the fish are leader shy.

I would like to mention again and please bear in mind when making or buying flies, insist on light dressed flies. After all the hackle on a fly represents its legs and most all flies have but only six legs. Be sure not to make or buy a fly looking like an octopus.

Federation Division Notes

Stream Improvement Timely

This is the time of year to begin thinking about doing a little stream improvement work. There are many things that can be done to improve living conditions for the fish. One of the most important of these conditions is an ample food supply. Ample food means more and bigger fish in less time. C. A. French, Executive Secretary of the Pennsylvania Fish Commission has been heard to say that it is possible to grow trout a foot long in one year, given proper conditions and sufficient food. In your fishing trips you can do a number of things which will make it easier for the many things on which fish feed more abundant. Plant a few willow shoots along a bank which is open or unshaded. These shoots can usually be trimmed from willow bushes found elsewhere along the stream. Roll an old log or stump into the stream. Various forms of insects and marine life love to harbor around such obstructions. Lift and prop up the lower edge of a flat stone an inch or so. Build a low, loose stone dam or wing wall. These may be just little things but if a goodly number of fishermen would do just one of them on each trip it would add up to a tremendous total in a season.—*Central Division News Bulletin.*

Dealers to Publicize Fishing

National attention will be focused on fishing, May 20 to 27, through sponsorship of "Let's Go Fishing" by The Sporting Goods Dealer, trade journal for the sporting goods industry published in St. Louis, Mo. The Associated Fishing Tackle Manufacturers and the Outboard Club of America are cooperating in the event.

Local fishing tackle dealers will participate with window displays and newspaper advertisements. The promotion is designed to call widespread attention to fishing as a thrilling sport and wholesome recreation.

A man with a wonderful vocabulary is one who can describe a shapely girl without using his hands.

I WAS NOT IMMUNE

By Lois T. Henderson

OH, I was smug, I was. With my tongue tucked in my cheek, I sat down and wrote about my fishing father and my fishing husband. I didn't out and out call them liars and madmen, but I certainly hinted at a tendency towards exaggeration and a mild insanity. But that was before last summer. That was before I hooked a muskie, and HE GOT AWAY! Even I, the skeptic and the scoffer, was not immune.

It all began one hot day in July. I was sitting on the sand watching my small son and daughter and peering occasionally across the shining surface of the lake to try to decide which spot on the horizon was my husband in his boat. It was more or less the way I spent all my time at camp—watching the children and wondering which boat was Al, and if he would come home delirious or dejected. Of course, as I've said before, his dejection never lasted more than a few minutes; then, he'd begin to get a hopeful look again and contemplate long and loudly on whether, if he had trolled just five more minutes by that certain bed of reeds, a fish might have struck.

As I watched on this shining day, one spot began to get steadily larger, and before long, Mary Sue was racing down to the edge of the sand to shout, "Daddy, Daddy, did you catch a fish?" The boat was pulled up onto the sand, and Al came striding up, gathering up children, sand pails, shovels and similar paraphernalia as he came. He was sunburned and grinning, so I figured this must have been a morning well spent. Then, behind David, I glimpsed a rather dead looking pickerel dangling from Al's hand, so I knew life would be really beautiful for a few hours.

"Nice catch," I greeted him, trying to sound wifely and informed-about-the-technicalities-of-fishing at the same time.

"Boy," puffed Al, dropping onto the sand beside me, surrounded by a cloud of sand, children and fish smell, "did he put up a fight!"

"Did he?" I asked, and it was quite a task to look blissfully interested in Al's fish and still pull sand burrs out of four-year-old Mary Sue's hair and keep six-year-old Davey's inquisitive hands off the slimey fish.

The words poured out of Al in a torrent, and I tried to listen, but, frankly, I was getting awfully tired of fish, and the thought of cooking another one left me quite devoid of enthusiasm.

"Goody!" Davey was shouting, "Fish for dinner! Fish for dinner!"

Davey was his father's chief proponent where fish were concerned. He loved the feel, the smell and most of all the taste of them. Al ruffled his son's hair and looked smug and proud of himself and this display of what he considered intelligence in his offspring.

"I wanna go fishing," said Mary Sue with a coaxing look toward her father. I could see that it was all over but the shouting; she has only to ask, and Al complies with the most extravagant request.

"Sure," he agreed, "What do you say, honey? Let's take 'em fishing. They aren't too young to learn."

"They'll be noisy," I warned him.

"Not me," screamed Davey, "I won't be noisy, Daddy."

"Me neither," shouted Mary Sue, and the earth trembled with their deafening promises of silence.

Al beamed on this demonstration of family spirit and ran up to the cottage to deposit his precious fish on ice. With resignation, I applied suntan oil, tied on broad brimmed hats, fixed up toy fishing poles with tiny hooks and propelled the children toward the boat. Up till now, the toy fishpoles had been used only for poking holes in the sand, and I had considered it a sufficient use for them. I settled Davey in the broad back seat with me, and we concentrated on keeping Mary Sue seated, whether on a seat or on the floor, just so she sat.

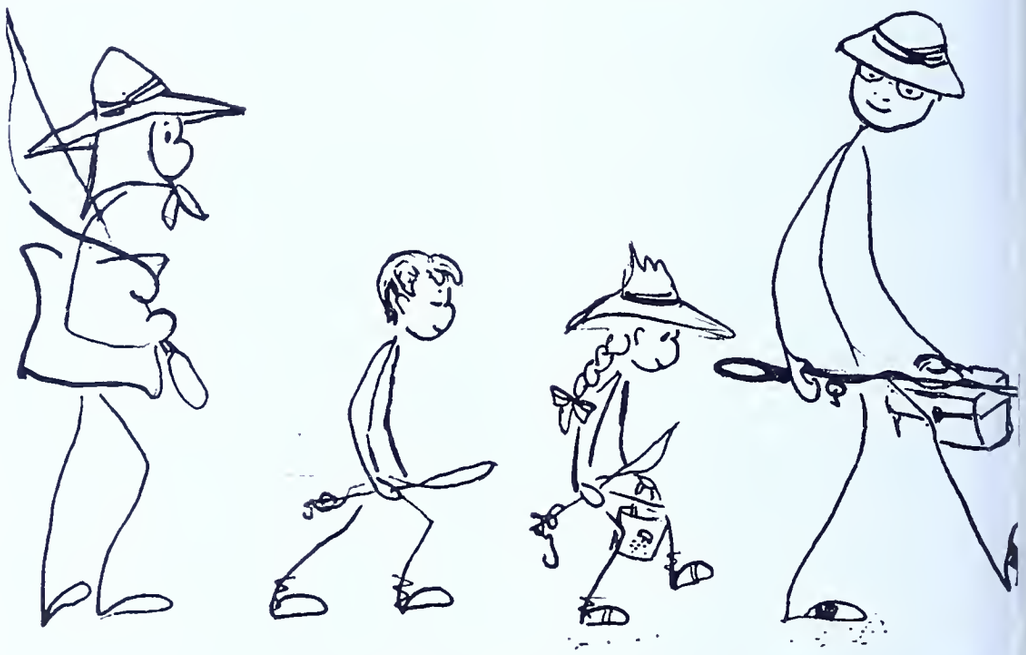
Al began rowing away from the dock, and before we had gone fifty feet, Davey had put his feet in the lake, shoes and all, and Mary Sue had thrown her sand pail (which she had insisted on bringing along) over the side where it promptly sank to t tune of loud lamentations from bo children. Mary Sue kept saying, " was your pail that sinked, Davey and his anguish was real and loud.

Al began to have a harrassed loo but I knew he was comforting hims with the thought that as soon as w got anchored, they would becom mouse-like and sphinx-like. Men a very innocent.

Finally, he came to a spot where thought the children could catch su fish, and where he might, just by ac dent, catch a bass that had come see ing sunfish. His reasoning seemed little hard to follow, but I was rea to go along with any plan. He bait the children's hooks and dropped t lines over the side. For perhaps thr blessed minutes, there was absolu silence, and I began to relax and thi that maybe there was something this fishing business after all. The bo rocked gently, the sun was hot in blue sky streaked with wisps of silv clouds, and there was no sound at but the soft humming of insects. Su denly, David's line jerked. He was startled that he nearly dropped l pole, but no shock is great enough render him speechless. He opened l mouth and roared, "Something is wi gling my line. Is it a fish?"

The blast of sound, so unexpect in that small, peaceful spot, lifted about three inches off his seat, and l rod jerked convulsively. He turned strained face toward me. "Keep hi quiet," he whispered, "I think I had nibble."

Davey was whipping the air with l



We propelled the children toward the boat.

in a dangerous manner, so I ght his hand and lifted the line out. fish was gone, and so was the m. Al sighed when I asked him to the hook again, but with admir- patience, he laid his rod down and d Davey's hook. About that time, y Sue lost her bait, and she wept d that any fish would eat her nice, gly worm. Al began to look a bit n, but he said nothing.

hen Mary Sue dropped her hook the water, she accidently bumped ey. So, of course, he slapped her, she kicked him. I separated them re it became a free-for-all and them, my voice rich with per- sion, how exciting it would be to h a nice, fat fish on their hooks. a few more minutes, they concen- ed fiercely, biting their tongues and athing hard. Then David's pole ed again. He screamed in delight, this time, with a bit of help from he managed to pull in a tiny sun- His happiness carried, I'm sure, he most distant shore which was at t a mile away. Then Mary Sue ght a fish, and the boat rocked w with their joy.

ut their interest faded quickly, and y began to hint about going home, l there was mention made of drinks l bathrooms. With a sigh that al- st resembled a sob, Al pulled up the hor to get ready to leave. Then he ned to me and said, "Do you want troll while I'm rowing back? You t might catch something."

O. K." I said, although I was think- that if I caught anything, it would bably be a backache. However, if ould make him any happier to have troll, I was willing. It seemed a me that his little excursion had re or less been a complete flop. He d the June bug and the worm, and egan to reel out line as we headed camp. I got snagged on reeds sev- l times, and each time, there was urch in my heart that I simply ldn't understand, and that I uldn't have admitted to Al, if my had depended on it.

Then, about half way across the lake, it happened. My line snapped taut, and my throat closed almost completely. "Stop rowing," I croaked, "I think I'm caught on the reeds again." Al stopped and even rowed back a little, but the line did not loosen, and then I saw the line start to move in a circle. My mouth was dry, and I honestly think both the children could have fallen in the lake then, and I wouldn't have noticed or cared. Suddenly, the fish jumped, and in that split second of water spraying and flashing in the sun, I saw the long-jawed, dark head of a muscallonge.

"Oh, dear heaven," I prayed, "It's a muskie!"

Al yelled, but I don't know what he said. I was praying and panting and struggling, and then with a sickening jerk, the line went lax, and he was gone. I could feel the furious tears running down my face, as I reeled in the limp line. Al was trying to comfort me across two boat seats and two thoroughly cowed children, and I will always love him because he did not start telling me what I had done wrong.

Then, like magic, the sorrow was gone, and I was filled with a light headed delirium that I had never known before. I, I had hooked a muskie. I could still see the sloping head, the curving powerful body of the fish as he plunged from the water, and my hands knew at last the wonderful feel of a big fish on the line.

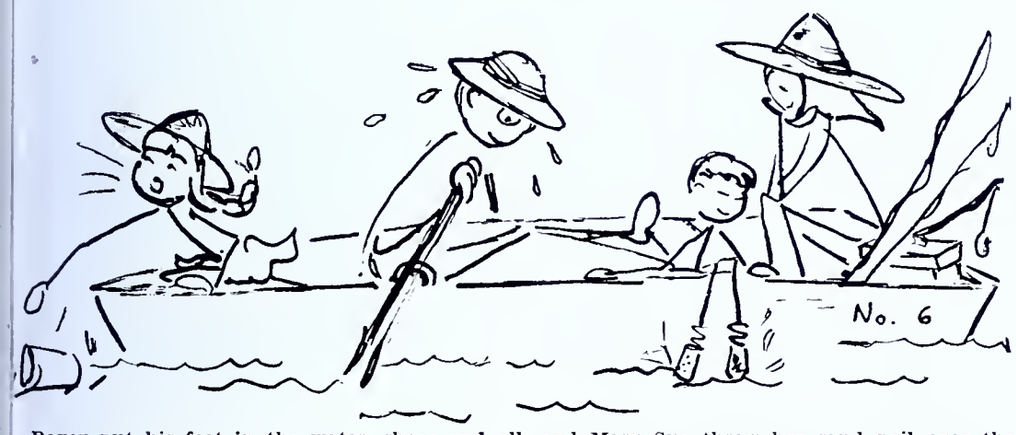
"I'll bet he was 35 inches long," I bragged to Al, wiping the tears off my face.

Al grinned and started rowing back to camp. He had hardly beached the boat when I was running wildly toward my parent's cottage. I think Al got the children out of the boat; I really didn't notice.

"Dad, Dad," I screamed, "I hooked a muskie. And, Dad, he must have been easily 40 inches long."

It took, of course, much longer to tell the story than it had taken to lose the fish, but it was a time of glory and excitement. Later that day, I heard Al say to Dad, "It wasn't even legal size, I'm sure."

But he was wrong. I know he was wrong. I saw it myself, and it was at least 45 inches long—or longer.



Davey put his feet in the water, shoes and all, and Mary Sue threw her sand pail over the le where it promptly sank.

In that split second of water spraying, I saw the long-jawed, dark head of a Muskellunge.

Commerce Dept. Booklet Available

The 1950 booklet, *"Fishing Accommodations in Pennsylvania,"* compiled by the State Department of Commerce is presently available through the Vacation and Recreation Bureau, Capitol Building, Harrisburg.

The 72 page pamphlet summarizes the open seasons, size and numbers of fish permitted under five groupings for resident licensed anglers.

Full information on all rules and regulations of the fish code are also included, all lodges and hotels are arranged by counties, names and mailing address of all owners and proprietors precedes the listing of fishing close-by; highway route, railroad or bus conveniences; and symbols showing type of lodging, eating, sleeping and guide services.

Golden Conservation Cake

Harvest hard wheat from the field of wildlife research,
Grind in the mill of hard knocks,
Test in the laboratory of controlled experiments,
Mix the shortening of pessimism and the sugar of
Optimisim until creamed to harmonious reality.
Stir in the fertile egg yolks of independence
And cast out the whites of fear and prejudice.
Leaven with the rising pride in progress,
Season with the salt of experience.
Add the milk of human understanding
And mix to a pliable batter of adaptability.
Flavor with the extract of practicability,
And bake in an oven regulated by the hand of patience.
Cool and apply a heavy coating of the frosting
Of honest public relations.
Serve fearlessly to a public ever hungry for
A piece of good conservation.

—Jim Kimball.

STAND-BY STREAMERS

BY ALBERT G. SHIMMEL

SOME anglers have a prejudice against the big flies and their use. The belief that they are effective only in early season or discolored water could be easily proven erroneous if time were taken to give the streamers a chance to prove their worth. Scarcely a day astream passes that would not be made more productive by the use of these fancy feathers.

Perhaps much of the dislike anglers have for bucktail and streamer flies is due to the fact that most of the commercial patterns are tied on hooks somewhat larger than the most effective trout sizes. For myself size 10, 3x long is standard. Others from 8 to 14 are at times my choice for certain stream conditions. True they are somewhat unwieldy to handle until some practice brings about a perfected technique. Their use can be as satisfying as any other fly types.

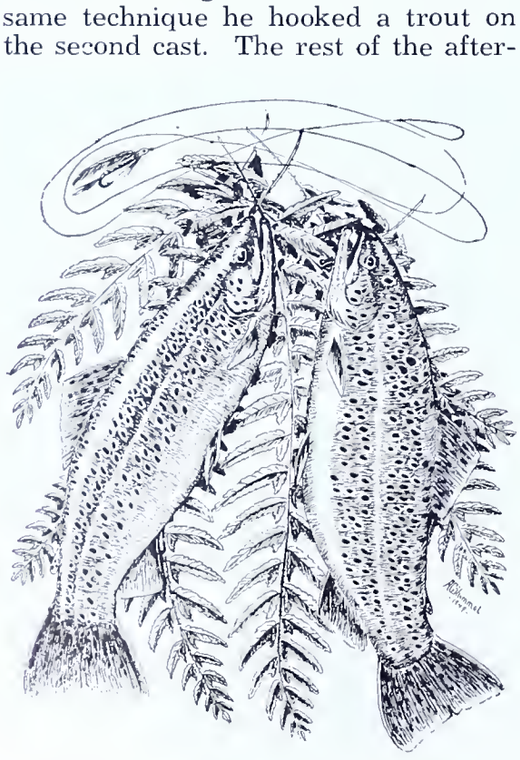
Large streamers are the easiest of all flies to construct so if you cannot stretch the family budget to the time of six to ten bucks per dozen necessary why not make your own? If there is any type of fly on which you can let your imagination run riot with the sky as the limit and with a good chance of success try streamer.

As additional attraction all heads should be finished with a painted eye. This may seem to be difficult but the black pupil may be made simply by dipping a match stick in lacquer and touching the head of the fly.

Of the more than a hundred patterns tested during the past fifteen years a few have been outstanding enough to warrant a permanent place in any anglers kit. I do not claim that these are the best, but are the patterns that have the best trout appeal as shown by my fishing log.

Heading the list is the Black Ghost. Body—black silk with a wide silver rib, tail and throat—Golden Pheasant crest instead of the yellow bucktail generally used on commercial patterns. Wings—four soft white hackle feathers, Shoulders Jungle Cock eye, Head—Black lacquer with black and yellow painted eye.

May-24. Normally one could get good dry fly action at this time of year. Water perfect and all conditions pointing to a perfect afternoon. Chet and I sat and watched the water for half an hour without seeing a fish rise. We put on wet flies and worked the stream for a hundred yards without any action. Finally a nice trout came up twice to Chet's Iron Blue wet but would not touch it. He offered three other patterns of wets and a nymph but no dice; Finally he admitted defeat and came over to my observation spot under the willow. Removing the wet and the nymph that formed my cast I put on a Black Ghost. Twice the trout showed as the streamer passed his lie but that was the limit of his encouragement. A half hour later I came to a favorite pool formed by an upturned strata of limestone crossing at right angles to the course of the stream. Making a few trial casts produced nothing then because the streamer was not sinking properly I pinched a single split shot some eighteen inches up the leader. The first cast was fished out with the regulation line and rod manipulation but it too failed. Making a second cast I hooked the rod under my arm and fumbled for my pipe. The fly tumbled along the stream bed unheeded. The line became taut and thinking it had caught I moved the rod in order to dislodge it. A vicious tug brought me quickly from my day dreams and I had the pleasure of playing a plump fourteen inch brown. Another cast handled the same way produced a second trout almost as large. Moving up to Chet's pool I gave him a Black Ghost and explained the method. He is a master of the "dead drift" with a wet and using the streamer with the same technique he hooked a trout on the second cast. The rest of the afternoon produced trout after trout of good size.



We experimented with other methods and streamer patterns but only one other pattern would attract trout and no other method of handling would produce a strike. The second pattern was a White Marabou.

White Marabou.

Wings—white marabou feather with six strands of peacock herl through the middle.

Body silver tinsel ribbed with oval silver cord.

Throat—mixed scarlet hackle and guina fowl.

Head—black with white eye and jungle cock shoulders.

This pattern is especially effective for me on waters that have an amber color.

July 4—Decided to celebrate Independence Day with the trout. Jack and I breakfasted on Moshannon at the mouth of Rock Run before daylight and were hard at work by the time the first faint streaks of dawn touched the water. When I quit at noon two beautiful trout graced my creel but the pleasure I had in that was marred by the fact that I had raised sixteen beauties of better than a pound each and of the twelve marabou's that had decorated my fly box at dawn not one remained. Ultra light leaders and a strong arm had contributed to my undoing.

One picture of that day that remains undimmed by the years is that of a rainbow wearing a streamer in his jaw and marking his erratic course around the pool as he tried to rid himself of the offending decorations.

A small white or light gray streamer tied on an extra fine wire dry fly hook will sometimes work miracles when the shad flies are hatching. A small amount of dry fly oil will keep it well toward the surface and add transcense. Fish it dead drift with an occasional twitch to give the illusion of life.

The next patterns needed for a well balanced kit are the Edson Tigers, light and dark.

Light Tiger.

Body—Peacock Herl. Tail—Barred Mandarin. Hackle—Scarlet. Wing—Honey Bucktail. Shoulder—Jungle Cock. Head—Yellow with black and yellow eye.

Dark Tiger.

Body—Yellow Chenile. Tail—Barred Mandarin. Hackle—Scarlet spade feather. Wing—Brown Bucktail. Shoulder—Jungle Cock. Head—Black with white eye.

These patterns top the list of many anglers due probably to their effectiveness on all manner of game fish. The Light Tiger has a way of moving rainbows when nothing else seems to prove satisfactory.

mong the streams I fish with some ree of regularity is a clear free- e mountain creek where streamers not seem to arouse any particular rest. Last season I spent a week he old camp and began to experi- t with stubborn persistency. The r sparkling water provides excel- dry fly sport especially in late on and without trouble I could er a brace or two for the camp er and satisfy My Lady in Plaid has a yen for broiled trout. This me free to pursue my research. ntually the Edson Light Tiger, size was found to produce at dawn or k and when the sky was overcast.

ne afternoon during a mild warm I had a fieldday in which the t cooperated beautifully. I kept e, a brook; a brown; and a rain- that were beauties in size and ect coloration.

he next streamer is one that has ven successful not only on trout bass as well. Brook trout seem how a marked preference for black ration in a lure and this streamer the result of much experimenta- in finding a lure that appealed to larger members of that family. want of a better name it was ed simply Black and Gold.

lack and Gold.

ody—Black silk with wide gold Tail and Throat—Golden pheas- crest feathers. Wings—Four dark nace hackle with wide black cen- and blood red edge. Shoulders— gle Cock eye. Head—Black with ellow eye.

he high spirits of a twelve year old not be suppressed at the first sight the big river and his first chance bass. Especially if he is included ull fledged member of a party of lt anglers.

he same geni that presided when cut his first tooth using a pair of kle pliers as a teething ring was l assisting him as he stepped hip p into the river and made his first t while the elder members of the ty were loafing through the ritual setting up tackle.

Hearing an excited shout we hurried the bank and saw him, feet planted nly, gripping his whipping fly rod he fought back against the lusty ges of his first bass. A few min- s later he climbed the bank and d up the new net to allow us to pect his captive. The lure was one the Black and Golds he had con- ated from the stock drawer of the tying cabinet at home. Half way the nine foot leader hung another the same pattern. After being con- tulated he returned to the river d demonstrated that the Black and ld was as deadly on bass as it had n on brook trout.

Lady Ghost.

Body—Silver tinsel. Hackle—Peacock Herl and Polar Bear tied streamer. Wing—Honey Badger with a top of Golden Pheasant crest. Shoulders—Brown Pheasant over Jungle Cock eye. Head—Black with white eye. The general effect of this fly in color is that of the Black Nosed Dace a minnow prevalent in trout streams. This is my favorite for trout although it does not seem to be a popular pattern with anglers in general. It has a way of goading trout into striking viciously if cast repeatedly over them.

A city friend of mine had fallen under the influence of a native angler who was an addict of the spinning minnow school of trout fishermen. Two of our days astream last season were in the nature of contest between the natural and artificial lure. In the low clear water of late season the advantages were in favor of the streamer. I do not know how complete was my friend's conversion but I wager that next season will find him well supplied with long flies of which the Lady Ghost pattern will be well represented.

Try an extra large streamer of a somber color some night in those deep pools that are unproductive by day. You may come up with a trophy sized trout that will cause your friends to measure him with envious eyes. Even one of modest size will furnish you thrills and chills aplenty when hooked in the blackness with only the whip-poor-wills and stars for company. Streamers the warm velvety blackness of night and your favorite deep pool are the ingredients that spice the adventure of angling.

HANDY WEATHER GUIDE FOR ANGLERS

Fishing trips can now be made with more certainty of favorable weather with the help of a simple and highly accurate instrument that forecasts 12 to 24 hours in advance according to the American Optical Company.

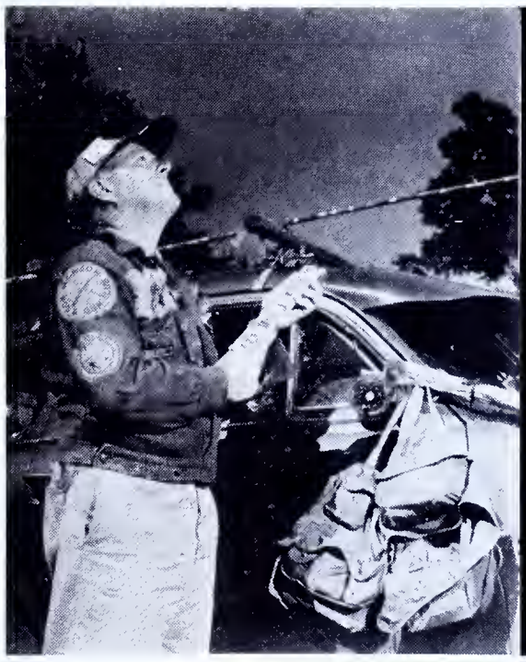
Small enough to fit into a pocket, the new weather guide figures out local weather conditions from prevailing clouds and wind. This method is regarded as much more accurate than predictions based on barometer readings, in which air pressure alone is considered, according to Dr. Irving P. Krick, president of the American Institute of Aerological Research, who developed the new device.

To operate the guide, wind direction is noted and clouds in the sky matched with one of seven colored pictures of cloud formations on the face of the instrument. Then a simple turn of a dial aligns a red arrow with wind direction and the correct weather forecast for the next 12 to 24 hours appears in a little window.

Fishermen will find the weather guide of great assistance not only for their own comfort but in choosing the time fish are most likely to feed.

Dr. Krick has been active head of the Meteorology Dept. of the California Institute of Technology for 15 years. During World War II he served as Deputy Director of Weather Services and Chief of the Weather Information Section, U. S. Strategic Air Forces in the European Theatre, responsible to General Eisenhower for operational weather advices.

Clouds and wind are the "signs in the sky" offering clues to coming weather, Dr. Krick claims. The pocket-size weather guide is new, he adds, but the fundamental principle is as old as weather itself.



Fishing trips can now be made with more certainty of favorable weather with the help of a simple and highly accurate instrument that forecasts 12 to 24 hours in advance. Small enough to fit into a pocket, the new weather guide figures out local weather conditions from prevailing clouds and wind.

Ecological Sense or Nonsense

(*From Page* 3)

well. To be a practicing conservationist requires all of this and more.

I sometimes tire of hearing about education, but having something to do with it, I am not surprised because I know that bankers sometimes tire of being bankers, lawyers of being lawyers, Presidents of being Presidents. I have some suspicion that there are even times when fishermen become tired of being fishermen, or at any rate I read stories of how they lie down along the bank of a stream and enjoy watching the birds or a doe with its fawn. As a fisherman, I have gone fishing only to spend most of my time collecting insects. At any rate, even though we may sometimes tire of education, nevertheless it is necessary that we undertake education in the field of conservation. I am convinced that although we talk a great deal about conservation there are many of us who do not know what to do about it. We are thrilled when we hear that something has happened that results in a net gain for conservation, but we fail to start such things happening in our own local clubs and communities. The so-called efforts at conservation of some groups of sportsmen consist of helping to stock trout or bass; if not this, then they concern themselves with the releasing of pheasants or rabbits. Some clubs have gone a step further and are planting new trees, natural game feeds, and multiflora rose for cover, but all in all we are doing too little of even this limited work on the road to conservation. We must interest ourselves in the conservation of our natural resources, by studying the effects of existing laws or those about to be passed. We must know and think about and then express an honest opinion about the rules and regulations on our streams. Do we want to regulate bait fishing? Do we want to eliminate spoons and spinners? Are we in favor of fishing with artificial lures? Should we eliminate or regulate spinning? Is it real conservation to keep trout only nine inches or longer rather than the six inch size that most of us are familiar with? Can our streams stand the ten-a-day limit or should we reduce this to five or six, and what are we going to do about preserving the natural baits in our streams, which make the natural fish food? Remember that we feed the fish with our tempting lures only for a few short months of the year, and the rest of the time the fish is dependent upon whatever can be found in its own habitat. In spite of the fact that millions of earthworms are cast into a trout or bass stream the first day of the season, there is no such deluge the first of December. As a part of our conservation education, we must be familiar with organizations that are carrying the burden of this problem now. We must wisely support our local Sportmen's Club, the Federated Sportsmen, the National Wildlife Research Council, our Fish Commission, our Game Commission, and many others, which I cannot mention here. When I say support wisely, I mean exactly that. There may be times when our support is to be opposed to some solution under discussion and not always to be in favor of the motion. Support should not be given blindly but should only be given after we have the facts and have examined them with honest thought and consideration. Remember that men who were opposed to the idea that the world was flat discovered in turn that it was round; those opposed to the idea of no woman's suffrage finally won it; and those opposed to tyranny discovered democracy. It is no disgrace to be opposed to something, but it is a sign of stupidity to be "opposed to" without being able to offer a plausible and perhaps better solution.

Our education in the field of conservation must go on. We are just beginning this stupendous task and to falter now or to think that the job is finished would be a fatal mistake. Let conservation be our goal and sound ecological practices be our tool; with such a combination we cannot fail to solve the present problems and leave in addition something very worthwhile for posterity.

"He has a very low I. Q.—Doesn't know when to use a black bivisible and when not to."

The Making of an Angler

(*From Page* 1)

so they wouldn't be injured, and Bill took the lesson to heart.

Toward the end of trout season, Bill, the Warden, and a few of us drove to Laurel Hill Creek to fly-fish and check stream conditions. Rumor had it that a big brook trout had been seen there. Naturally we were eager for a try at him.

When we arrived, Bill stunned everyone by saying that he'd wait while we fished. We covered several pools without a rise. The last hole we came to was wide and calm, not very deep, a fallen tree half-submerged by the inlet. After we'd finished that, Bill tried his hand. On his fifth cast he said, "I think I'm snagged on a log." Then the log came to life, and the pool blew up.

Up and out jumped the fish in a burst of spray and color. Everyone yelled advice, but Bill remained cool, keeping a tight line. His rod near bent double, but he played the fish fair and square. After what seemed like hours, the lunker tired, and Bill led him into the shallows. It was the big brook, and what a trout! Dark-backed, spots almost luminous with redness, and an underbelly whiter than new snow. It was the kind of trout you dream about, but rarely see, much less catch.

While we stood dumbfounded, Bill eased the hook from the trout's jaw. The fish lay in the shallows, fanning slowly. Then it glided back to the icy depths. The old warrior would live to fight again.

Someone cleared his throat and said: "That was a darn sporting thing to do, Bill."

A whippoorwill called through the moment of silence that followed. Bill thought he'd mosey downstream to try the last pool again. We watched him out of sight.

"Boys," said the Warden, looking very thoughtful, "I think the lad's arrived. Yessir, I believe he has the makings of a fine angler."

Nobody seemed inclined to disagree.

—*The Huddle*

God grant that I may fish for trout
Until my dying day,
And when I come to my last cast
I'll then most humbly pray,
When, in the Lord's safe landing net
I'm peacefully asleep,
That in His mercy I'll be judged
As good enough to keep.

—*Unknown*

ENNSYLVANIA REPTILES & AMPHIBIANS

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 14 . . . Mudpuppies and Hellbenders

ENTRAL MUDPUPPY (Necturus maculosus maculosus) . . . Maxi-
n length 17 inches; second largest salamander in Pennsylvania;
rely aquatic; retains external gills throughout its life; smooth
, brown or gray, with scattered large, round, dark spots on back;
e known except to fishermen who sometime catch it and who
n fear it; sometimes called "water dog" and while it may nip hard,
s otherwise harmless; rests on bottoms of streams and lakes by
feeds by night on crayfish, small fish, insects, worms.

GILLS OF MUDPUPPY . . . Mudpuppy may be distinguished from all other adult Pennsylvania salamanders by the presence of three bushy, bright red gills on each side of the neck; called "Peter Pan" of salamanders, for it never grows up; other local salamanders have external gills only during larval stage, but mudpuppy never loses gills and never leaves water; in cold water, gills held close to head and moved infrequently; in warm water, which contains less oxygen, they are kept in frequent motion.

STERN HELLBENDER (Cryptobranchus alleganiensis) . . . Maxi-
n length 27 inches, males reach about 22 inches; largest salamander
ennsylvania; gray, red-brown or dark brown in color with a broad
head and flattened body; folds of loose skin along sides and along
margins of legs; completely aquatic; crawls along the bottoms
streams, feeding principally upon crayfish; eats more dead than
g fish and small hellbenders are eaten by fish; occurs principally
hio drainage, but has reached Susquehanna.

HEAD OF HELLBENDER . . . Although completely harmless, hellbender is greatly feared by fishermen who often cut their lines rather than remove it from the hook; often confused with other large salamander, the mudpuppy, but prominent external gills of latter serve to identify it; hellbender has gill slits only; eyes are very small and without eyelids; prefers streams with rocky bottoms where it can hide; while large and ugly, is dwarfed by closely related giant salamander of Orient which attains length of over five feet.

GS OF MUDPUPPY . . . About 60 pea-shaped eggs are laid in the
ner under a board or stone in the water; ones shown above were
hed to bottom of rock in Sandy Creek, Venango County; incuba-
requires about two months; hellbender eggs are laid in August
eptember, 300 to 450 in number; they are laid in long rosary-like
gs in a saucer-shaped depression under a rock in the stream bed
are fertilized externally, a process possibly unique among American
nanders.

CATCHING HELLBENDERS . . . Except to fishermen who unwillingly catch them, mud puppies and hellbenders probably are known best to college students who receive them for laboratory study or dissection; Paul and Dave Swanson, Venango County sportsmen, collect these aquatic salamanders for biological supply houses and enjoy the sport of hunting them; most hunting is done with aid of lights at night when salamanders are most active; nets were found impractical, so Swanson brothers use bare hands.

Fishing From the Outboard Motorboat

Today's modern outboard motorboat is in a class by itself when it comes to maneuverability. Properly matched to the correct motor, an outboard can turn about its own length, can be accelerated or throttled down quickly and smoothly, and can almost stop on a dime. And the advent of the gear shift control—once only possible in engineer's dreams—makes a quick reverse nothing more than a twist of the wrist.

Yet the average sportsman takes this maneuverability for granted to such an extent that he seldom takes full advantage of it. It is usually only in races that he is fully conscious of what his outboard can do.

The outboard's maneuverability can be utilized during every day of the fishing season by sportsmen who work as a team when going after the "big ones," instead of fishing independently. Having two in the boat means that one can put his hand to the controls, instead of the rod, to aid the angler in turning the odds against the gamest of the finny tribe.

One method, of course, is to have a partner who likes to boat but doesn't care too much about fishing. Since it is next to impossible to find anyone like this, the problem of who is to fish and who is to handle the boat can be solved by alternately taking turns at the controls and the rod.

The boatman has to be completely alert to make the combination pay off in terms of a full creel with the lightest tackle and he should be fully aware of all that he can do to aid the man battling a fish. Proper teamwork between boatman and angler is a combination that any fish will find hard to beat.

Within seconds after the angler makes his strike, the boatman should swing the boat into the best possible position to make any further move necessitated by the antics of the fish.

He should be ready to follow the hooked fish before half the line is off the reel. He saves line for the angler and regains line when the opportunity presents itself. When a fish is jumping close to port, for example, and the line is dipping off to the starboard side, it is up to the boatman to keep the line from fouling on the bottom of the boat either by pivoting or by pulling away a number of yards to straighten out the line.

Usually the angler has enough to do once a strike is made and it should be up to the boatman to handle the boat so the fish may be caught comfortably. Even the simple business of holding the boat steady helps immeasurable in boating a big fish. The boatman should also keep one eye peeled for other craft, rocks, logs, and other obstacles that might mean a fouled line or a broken sheer pin.

The boatman should move fast enough so that a fish can't pull a taut line against rocks or brush. When playing a fish in shallow water with a sharp, rocky ledge offshore the boat, the fish will often run beyond the ledge and dive for the bottom to cut the line. An alert boatman can keep up with the fish and stop only when both fish and boat are offshore from the ledge. Following the direction of the line and pivoting his boat accordingly can mean the difference in boating or not boating a big fish.

After sportsmen work together a few times they can understand just exactly what each has to do and can learn to depend on their fishing partner. Working as a team not only pays off with a full creel, but also strengthens the strong bond between two guys who like to go out fishing.

My Dad

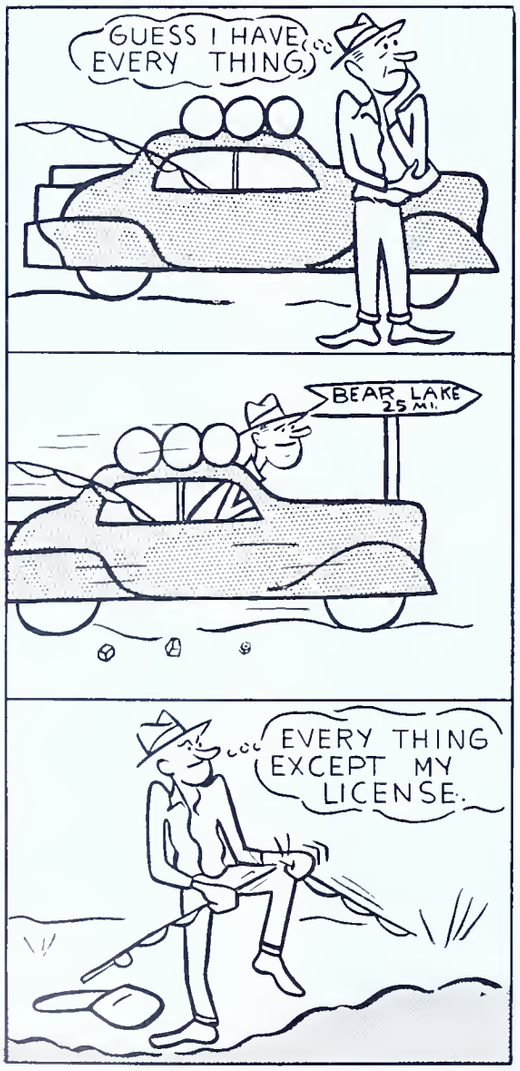
My Dad knew a lot of wonderful things—
  Why a bird dog points—and a katydid sings.
The weight of King Arthur's coat of mail—
  Why the beavers' big flat tail.
The length of an Indians hunting bow—
  Why the wild geese southward go
Why the brook trout lay so deep—
  How the "Seven Sleepers" sleep.
Why the ruffed grouse "crazy flight"—
  Why the grey owl hunts at night.
All these things are precious gold—
  When a boy's with his dad, and he's twelve years old!

—*Don Winters.*

No person may sell or offer for sale any bait-fish or fish-bait taken from Pennsylvania waters. Penalty—$10.00 for each bait-fish or fish-bait taken and offered for sale.

An empty typewriter ribbon box is handy for carrying odds and ends such as flies, hooks and other small bits of tackle.

A pair of bicycle pants clips hold your pants tight when you want to put them down inside your boots.



Double Pleasure

The year is in God's April
And around and overhead
The air is most like lamb's wool
And the maple buds are red.

The frost has just vacated
The dark rich garden loam
And fishing worms have opened
The doorways of their home.

The winter pressure eases
And I sniff the atmosphere
And somehow get the notion
That fishing time is near.

They tell me that an old man
Should have good food to eat
Like fruit and bread and butter
And the proper kind of meat.

I can see quite plainly,
To have the proper dish,
I should get my tackle
And go and catch some fish.

Ma says we have canned fish
Standing on our shelf,
But I get double pleasure
If I catch the fish myself.

So when a hundred voices
Of Spring begin to talk,
All telling me my duty,
Now, who am I to balk?

And when the babbling water
Talks to me about
The lovely pools and eddies
That "Rosy" fills with trout.

And when those blue-eyed bubbles
Wink and seem to wish
To call to my attention
The proper place to fish.

I get the fishing fever
And the only thing I know
That relieves that welcome ailment
Is to get my pole and go.

—F. Judson Sew

Booklet on Films Available

The National Wildlife Federation recently published a booklet entitled "The Conservation Film Library." It lists 15 wildlife films many of them in sound and color that may be obtained for showing at a small rental charge plus transportation. There are a number of films that might profitably be obtained by clubs for showing in the local schools as part of the conservation education program. Address National Wildlife Federation, Service Division, 20 Spruce St., Boston, Massachusetts.

Instead of getting all steamed up and shaking your fist over high prices, it's more effective to keep cool and shake your head.

We couldn't resist telling about the fellow who offered his new girl friend a Scotch and sofa. She reclined.

It wouldn't hurt so much to become angry, except for some reason, anger makes your mouth work much faster than your mind.

Fishing

es go a-fishing
h weather is so fine
e out your rod and reel
cr hooks, 'n bait, 'n line.

as a good-sized lunch
rg a folding chair
iniss all your troubles
he off all your cares.

in a nice big pond or lake
ie out a shady nook
a your hook 'n cast it in
hn wait for one to take your hook.

eareful when you reel it in
h: he doesn't break away
vn if you don't catch one
c't let it spoil your day

o you have caught something else
h: you can't buy with wealth
h's relaxation, good fresh air
ir sunshine that brings health.

Clara T. Klaus.

Help! Help!

In order to complete a file for the library of a very prominent university in the United States, the PENNSYLVANIA ANGLER makes this appeal for the following "back numbers" of the PENNSYLVANIA ANGLER. July, 1938—February, 1943—August, 1943—September, 1943—December 1943.

If any of our readers have one or all of these "back numbers," we will appreciate your good cooperation by assisting us in locating and contributing them.

Sincerely,
J. Allen Barrett,
Director of Public Relations
Pennsylvania Fish Commission

The wrong office holders are elected by people who don't vote.

SNAPPING SNAKES

By KEITH C. SCHUYLER

If you are not too squeamish about snakes, there is one sure-fire method of disposing of water snakes that will get them when other methods might fail.

The procedure is simple: Grab the snake by the tail and crack, or snap, him like a whip. This action will invariably dislocate some vertebrae and render the snake practically helpless. The coup de grace can then be administered at your convenience.

This might seem a bit complicated and risky when a "22" rifle will do a much neater job (sometimes the snake's tail will separate in the snapping process.) However, when your are along a trout stream with your rod in one hand, it is more than inconvenient to carry a rifle. And, few fishermen are handy enough with a pistol to do a good job on a moving snake. Then too, the snake frequently takes to water as soon as you

approach. When this happens, a bullet is usually out of the question.

Ofter, a water snake will crawl in under a flat rock leaving the end of his tail exposed. It is simple enough to grab his tail, pull him out, and then snap him all in one movement.

I have killed more water snakes in this manner than any other since I find them mostly when trout fishing. And I have never been bitten. This is a relatively slight consideration when you consider that the water snake has very small teeth and is non-venomous.

Recently, I stepped down over a bank almost into a nest of three large water snakes. They were lying together on some old refuse, and I made a leap into the center of them. I managed to trample one, caught one by the tail and cracked him, but the big one got away. About an hour later, I saw another streaking across the creek with a small catfish in his mouth. I caught him by the tail as he was going up the bank and cracked him so hard that the catfish flew out into the creek and swam away. The snake did no more swimming.

Although this method of holding down the undesirable portion of the reptile population works fine on water snakes, I do not recommend it on poisonous species. You might slip.

Fisherman's Paradise Regulations

RULES AND REGULATIONS—SPRING CREEK PROJECT—SEASON 1950

1. **OPEN SEASON**—May 19th to July 22nd, both dates inclusive.
2. **OPEN**—from 8:00 A.M. to 8:00 P.M. (Eastern Standard Time) or until Klaxon is sounded.
3. **ALL ANGLERS MUST PERSONALLY REGISTER BEFORE FISHING AND PERSONALLY CHECK OUT AND RETURN IDENTIFICATION BUTTON BEFORE LEAVING PROJECT. NO SUNDAY FISHING.**
4. **FISH IN THE POSSESSION OF ANGLER MUST BE DISPLAYED AND CHECKED AT REGISTRATION BOOTH WHEN CHECKING INTO PROJECT. FISH NOT SO REGISTERED WILL BE CONSIDERED AS HAVING BEEN CAUGHT ON THE PROJECT.**
5. **ANGLERS MUST PARK AUTOMOBILES BEFORE CHECKING IN AND MUST CHECK OUT BEFORE REMOVING AUTOMOBILES FROM PARKING LOT.**
6. **DAILY LIMIT**—Only **ONE FISH** may be killed. The Angler must stop fishing after **ONE FISH HAS BEEN KILLED.**
7. Only artificial lures of hair or feather construction with barbless hooks or regular hooks with the barbs removed may be used. No spinners or swivels permitted.
8. Fishing with, or possession of, any live bait, angle worms, meat, liver, or any other bait, is a violation of the rules and regulations.
9. **SIZE LIMIT**—All fish caught from large stream under 10 inches in length and on ladies stream under 7 inches in length must be carefully returned to the water.
10. All anglers holding a Pennsylvania Fishing License will be permitted to fish five days during the season.
11. The dressing or cleaning of fish on the property is prohibited as all fish must be weighed when checking out.
12. **POSITIVELY NO WADING**—in the stream for any purpose permitted.
13. Sinkers or lures not exceeding the weight of 2BB Shot are permitted. No casting or spinning outfits permitted.
14. Feeding fish PROHIBITED except on Sunday.
15. Assisting in hooking or landing fish prohibited. All foul hooked fish must be carefully returned to the stream.
16. Violation of the rules and regulations will be subject to a fine of Twenty Dollars ($20.00), revocation of your fishing privilege on the project for the balance of the season, and revocation of your fishing license.

If you like this project you can help the sportsmen of the state by obeying these rules and reporting any infraction to the officers.

Section 251 of the Act of May 2, 1925, as amended, provides the Pennsylvania Fish Commission with authority to promulgate such rules and regulations for the angling, catching or removal of fish in or from any waters of this Commonwealth as may be deemed necessary. Penalty for violation—Twenty Dollars ($20.00) and in addition thereto may be fined Ten Dollars ($10.00) for each fish caught, taken or had in possession, contrary to these rules and regulations.

Whippoorwill

(*From Page 5*)

you are hoping develops, I'd just as soon be on this strecth. I'll meet you right after we can no longer see a bivisible floating."

Dave and I continued downstream. I knew it had been too much to expect all three of us to be in agreement for a second time in one day. At six, we were on the pool where Dave and Ned had started fishing that morning—and, trout were showing.

This pool we had chosen for our evening endeavors is an easy one to fish. The eddy-side is a curving sandbar that parallels the sweep of the channel-side before it fans out into a broad, fairly deep tail. There is good clearance for a backcast and unless you want to try for the opposite bank, which is some undercut, you need not wade.

We studied the 'rises' for several minutes. The watching and waiting revealed the locations of what we considered the larger fish. Then we went into action.

Dave's first two casts produced two 'pan stinkers' from the pool tail. These he released and called up to me, "They took a Dusty Dun. If this keeps up I'm going to knock the barb off. What are you using?"

Before I could answer I was fast to a small trout. While releasing it I yelled down to Dave, "That fish hit a Furnace Quill."

Action continued at an increasing tempo and because of the small size of the trout we were catching—we 'debarbed.' This added to the sport, and although it soon became apparent to us that the size of fish was increasing with the lengthening of the evening shadows, we stayed barbless.

After one particularly lusty encounter with a foot long 'brownie,' I noticed the quill on my fly was broken, so switched to a Golden Badger Bivisible.

Once during the evening we changed locations. Dave waded to where he could easily float a fly near the undercut bank and I moved up towards the pool head. The trout still hit without a let-up. We lost count of the number of fish caught and released. Of the many taken only four were creeled—two apiece. The keepers were all brown trout and each would go close to two pounds.

Some fifteen minutes after it had become guesswork as to what you were watching floating on the surface, a fly or a fleck of foam; Ned, with the aid of a small pen flashlight, came stumbling downstream from the Blue Hole.

"Well, how you guys been doing?" He accosted us in a matter-of fact tone.

I judged from the sound of his voice that here was a contented and satisfied fisherman, then replied, "Dave and I have been having a barrel of sport, but everything we've caught have been brownies. How did you make out?"

He answered, "Well, from a little after six until twenty minutes ago I had a circus and all those I caught were brownies. I kept four of the best ones. Boy, that was the kind of fishing I used to dream about when I was in the army. Come on break down, you can't see that fly anymore and I'm starved."

From mid-stream Dave chimed in with, "So am I," and started for shore.

I reeled in, fastened the fly in the keeper and took the four or five steps to shore. Then, as I started up the bank and on about the third stride, I accomplished the amazing feat of breaking the standing broad jump record of the world backwards and landed back out in the middle of Moscito Creek—for, from under my upraised foot had sounded the angry, warning buzz of a rattlesnake.

Ned was the first to speak and he asked in a quick, anxious way, "Did he strike you, Apper?"

"No," I stammered, "but he scared the devil out of me. Can you see him? Don't let him get away."

Warden Has Unusual, Useful Hobby

By Hal H. Harrison

Carlyle (Tid) Sheldon has the most unexpected hobby of any fish warden in the state.

He collects fish!

This Crawford county warden, one of 50 in Pennsylvania, started two years ago to collect fishes of the Great Lakes region. Today, in his home in Conneautville, he has preserved 65 different species, representing 22 families of fishes.

Although science lists 233 species known to occur in the Great Lakes region, which includes a great deal of northern United States and southern Canada, Sheldon, has been able to find, preserve and label over 25 per cent of them in two years. The 22 families of fishes from which he has taken his 65 species, represent all but seven of the families in the region.

This unique collection is contained in uniform glass jars and is much in demand at sportsmen's events for display and demonstration purposes. A number of the very large species of fishes which are missing from the collection will be added quickly when large containers of uniform structure are available.

A few of the families of fishes are now complete in Sheldon's collection. These include the gar family, the mud minnows, the silversides and the pikes. In the latter family, Sheldon has the mud pickerel, chain pickerel, northern pike and muskellunge.

The largest family of fishes in this region is the minnow family with over 30 species. The largest number of the minnow family is the carp.

The fish warden believes that the rarest fish in his collection is the silver lamprey. He found this rarity in a tributary of Lake Erie. There are four members of this primitive family in this region, and Tid has them all but one.

"This collecting of fishes gets in your blood," Sheldon told me. The more species I get, the more anxious I am to add others. Of course, it is just a hobby, but it helps me a great deal in my work. Since I started this collection, I find that I am able to identify many more fishes than ever before. In addition, I have learned to name the various species quickly when I see them," he declared.

"How many bass have you?" I asked the warden.

"Do you mean large mouth and small mouth bass?" he asked.

When I told him that those were the bass I meant, he gave me a very revealing answer.

"Well those aren't bass," he told me. "The popular fish that we call bass are actually members of the sunfish family. So are white crappie bass, black crappie bass and rock bass," he added.

"We have only two true members of the bass family in Pennsylvania, the white bass and the yellow bass," Sheldon explained.

And there, I contend, is a fish warden who really knows his fish!

Crawford County Fish Warden Carlyle (Tid) Sheldon shows part of his collection of fishes of the Great Lakes area. One of the rarest species in his collection is a silver lamprey which he holds in his hand.

he tiny beam from the pen light bed among the rocks and debris of h eddy. I was thinking a thousand rhtened thoughts as Ned searched. Then the light stopped. It was reveling the rattler coiled and ready for action.

Ned spoke, "Move up towards Apper, Dave. I'm going to shoot and you're in line."

Dave waded to where I was and advised Ned, "Shoot, but for heaven's sake don't miss."

We watched the barrel of Ned's pistol ease out into the flashlight beam. Then after a breath-holding moment he fired. The snake jerked, quivered and convulsed into a hundred spasmodic twists. Then collapsed into a shapeless mass on the shore. There was no repetition of the hair-raising rattling. An inspection showed why—the .22 W.R.F. hollowpoint had crashed the reptile's head, had torn big holes through the body and practically severed the rattles, which were eight in number.

While standing there after Ned had secured the rattles as a souvenir, Dave said, "Oh! brother, what a climax to as near a perfect day astream as a fellow could want."

Ned and I nodded. Yes, again, and during the same day, we three were in agreement.

What's New in Fishing Books

Reviewed by Hugh Johnson

WOW! That expresses your initial reaction when you first pick up a copy of *The Fisherman's Encyclopedia* edited by Ira N. Gabrielson and Francesca LaMonte, just published by Stackpole & Heck, Inc. of Harrisburg, Pa. As you hold the book in your arms (I say "arms" instead of "hands" advisedly!), you not only feel that you have something big but that you have something *monumental.*

The book's bigness in dimension (11" high, 8½" wide, and almost 2" thick) and its bigness in number of pages (730 of them!) are what strike you first, and cynically you might say "What a padding job this must be!" However, as you leaf through the pages, tentatively probing the contents, you realize how big, how monumental this book is in scope and coverage of subject matter as well. And as you explore more particularly, reading a bit here and a section there, you realize that there is no padding in this mountain of a fishing book, that it is a solid, genuine, and honest work. It is like holding in your lap—and, believe me, you need your *whole* lap for this buster—everything that ever happened, is happening, and can happen in the field of fish, fishing, and all allied activities. Furthermore, perhaps the most brilliant virtue of the book, this mass of information and lore is so efficiently organized, so masterfully lined up, categorized, and indexed, that any little item of information that your heart desires, no matter how special or seemingly obscure, such as how to goggle-fish for abalone or how to fish an ice fly, can be spotted, in this half-million-word compendium, in a jiffy.

The Fisherman's Encyclopedia is a three-way major achievement: (1) as a distillation of all the scientific fish information of interest and of use to anglers, (2) as a treasury of facts covering every aspect of the *how, when,* and *where* of all kinds of fishing, and (3) as an example of distinguished book design and book manufacture. It is impossible, in the short space of a review such as this, to explain why the book is that kind of an achievement, but I *can* say that, during the three or four days since buying *The Fisherman's Encyclopedia,* I have spent more than eight hours reading it. As large as the book is, the setting of the text in two columns makes it easy to read, but even eight hours hardly made a dent. In that short dip, however, into this bottomless well of information, I read the clearest and most practical presentation of limnology that I have ever come across; I read a fascinating and not-too-technical chapter on fish evolution and biology; and I found, for the first time in a fishing book, recognition of the fact that one of the finest baits for smallmouth bass is salt-water shrimp. These are just spoonsful, to return to the metaphor, from this well of information, but I am convinced that the entire contents will taste just as good! In fact, after a man has absorbed all the information in this book, he should be capped and gowned and have an M.A.A. (Master of Arts in Angling) pressed into his hand!

Over sixty writers, authorities in their special fields, have put their knowledge and talents into the writing of this book. Under the general editorship of Ira N. Gabrielson—former director of the U. S. Fish and Wildlife Service, with more recent experience as President of the Wildlife Management Institute, and with the associate editorship of Francesca LaMonte—internationally famous ichthyologist, *The Fisherman's Encyclopedia* can be fully trusted as an authoritative work.

There are literally hundreds of illustrations, including many full pages in color illustrating the more important game fish and the more important flies and lures.

A special orchid should go to the publisher and the The Telegraph Press in Harrisburg (which also prints THE PENNSYLVANIA ANGLER) for executing such a triumph of good book-making. The binding is sufficiently rugged to hold this tremendous book together for a life-time of hard use; and the attractively designed brown covers, the rich red endpapers, the head and footbands, the stout re-inforcement, and the fine-quality paper—all this spells beauty *and* durability. The price is $12.50, a very fair tag for this distinguished library of angling information.

MINNOW RIG

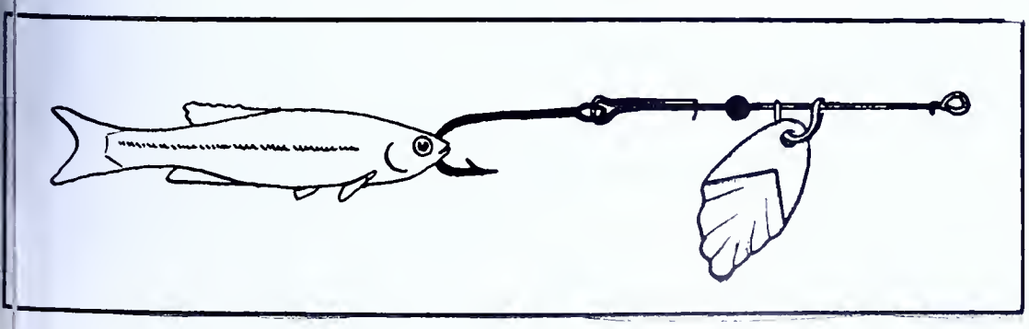
By Don Shiner

ame fish are the most cannibalistic among h finned tribe and often to the extent of devouring their freshly hatched fry. It is ned rare when they refuse a minnow vich by chance ventures too near to them. However, the minnow must be lively or show igns of life as in the case of a crippled minnow before it will be considered edible Using minnows as bait while angling for rout, bass, or pickerel and keeping them lively and active is a considerable large problem. The number of minnows in a container should be kept down to a minimum in order to insure a sufficient amount of oxygen for each, or the water requires more frequent changing. However, if some of the minnow dies, do not discard it, there are ways of using the dead minnows and often bring even better results than when using the healthy fingerling. Merely tie a hook through the lips of the minnow and attach it to a single or double bladed spinner. This 'rig' can be cast to the likely game fish haunts and retrieved in various speeds and actions. Of course, the minnows could be used in this way without the addition of a spinner, but the whirl of the shiny blade in front of the minnow adds to its effectiveness.

Casting this "minnow-rig" can be accomplished by using the conventional fly casting or spinning rod, of course, the age old method of skittering (particularly for pickerel) using a long bamboo or reed pole can not be overlooked.

If the minnow has become rather soft and it is found that frequently the minnow is thrown or torn off during a cast, this same rig can be trolled.

The important thing to remember is, even though your minnows die while encased in a container, they need not be thrown away or discarded. Try the addition of a spinner (see illustration) and instead of having the day become a disappointing one, you might be well pleased with the resulting catch.



If you don't like this country, remember, there are a billion people who would like to come here, and two billion who would like to get their hands on an American dollar!

Mud

(*From Page 8*)

litter or the droppings mixed therein. And they eventually discovered the secret lay in the activities of one of these soil organisms. It was making B_{12}. And B_{12} was the element in manure, in yeast, and in milk that was giving them rapid growth rates. Now they know how to manufacture B_{12} in the laboratory and mix it with cheaper feeds to produce heavier and healthier pigs and chickens.

To me, and to the Game Commission men with whom I've discussed this, these things begin to explain why wild life surges upward when a small pond is built in wild land. When I see a cottontail approach a beaver pond in early evening, hop delicately through the mud to the water's edge to drink, and retire to the shelter of a bush and spend ten minutes carefully cleansing his feet with his tongue—I begin to suspect it is all a part of Mother Nature's infinitely accurate plan to give him the vitamins he must have.

Certainly conditions become ideal for the growth and development of soil organisms in and near the beaver colony. The very nature of the beavers (to be continually dragging wood into the water) is to maintain a food supply not only for themselves but for the minute creatures that attack the wood. As it decays, by action of some of these organisms, food useful to others is released, and so the cycle is begun, to expand outward and upward. As the algae find food in abundance the insects prosper, and birds including woodcock and ruffed grouse find life rich and interesting. So also as the waterborne life surges upward the land animals will benefit from the increased vigor of the grasses.

A beaver pond is rarely a permanent thing. They build, and cut the trees and move to build again. In a wild remote corner of Clinton County, Pennsylvania there is a wide shallow upland valley where beavers have worked practically undisturbed for almost twenty years. Before they came it was a barren land, sustaining little but stunted stands of popple and scraggly blueberry bushes. Now there is a wide expanse of fertile land where the wild grass grows shoulder high and small game flourishes.

But with all this we have drifted away from fish and fishing. Many beaver ponds contain fish. And in the northern tier of Pennsylvania counties most of these ponds contain native trout. These trout are not more permanent than the ponds themselves, and they should be harvested.

I find a reluctance on the part of many trout anglers to fish these ponds. The trout are well fed and difficult to catch. They sometimes grow almost unbelievably fast. As long ago as 1937 we found a pond and saw brook trout we estimated to weigh between three and four pounds. We could not land them. We could hook these trout with small wet flies in the late evening—l t we never landed one. The pond vs a maze of standing timber. So soon s we hooked a fish he took a half hi n around the nearest tree and depar d with the fly.

This pond and these trout have lo g since disappeared. But there .e others. And it is the rich and teem g mud that makes them possible. Lo g live the beavers!

Streamside Life

Boneset and Regal Fritillary

By Robert Leo Smith

In late summer the streamside is a riot of color. The giant joe-pye weeds and asters flaunt their purple blooms; goldenrods are a mass of yellow; and among the two, where the ground is moist enough, the boneset adds a touch of white.

Two to four feet high, the boneset has a stout hairy stem with lance-shaped leaves united at the base so that the stems seem to pierce them. From this characteristic the boneset received its name, for "herb doctors" believed that a plant with united leaves could heal a fractured bone. The dull white florlets, that grow in flat-topped terminal clusters, begin to bloom in July and continue through September.

Wherever you find boneset and joe-pye weed, there, too, you may find the re l fritillary, a large, showy butterfly, ric v colored with orange, browns, purple, bla , and white spots. It prefers swampy meado , damp woodland borders and streamsi . Here it feeds, chiefly by night, on the n - tar and foliage of ironweed, boneset, go - enrod and other composites. In spite of s feeding preference for these plants, the re l fritillary lays its eggs underneath the lea s of the violet on which the newly-hatch l, yellowish-brown, black-spotted larvae fe l. The caterpillars undergo five moults bef e they reach maturity. Each time the fo and color changes. Upon the fifth mo t they become a beautiful velvety bla , orange-spotted larvae with six longitudi l rows of thick, black bristled spines.

The regal fritillary flies from June l September. It passes the winter in the g or as a first stage larva.

Pennsylvania Fish Law Violations

Cases settled during the month of March 1950

Aegheny County

Hegdovice, Anthony, 332 Soose Rd., Millvale, Pa. Violation of the rules nd regulations ..... $ 20.00

Hegdovice, Anton, 332 Soose Rd., Millvale, Pa. Violation of the rules nd regulations 20.00

Hegdovice, Rudy, 332 Soose Rd., Millvale, Pa. Violation of the rules nd regulations 20.00

Bler County

Th, Steven R., McKim St., Zelienple, Pa. Violation of the rules nd regulations 20:00

E County

Pzuto, Biaggio, 3008 Elmwood Ave., Erie, Pa. Fishing without a license 25.00

Finklin County

Cbaugh, Donald P., R. D. No. 2, Mercersburg, Pa. Fishing without license 25.00

Cbaugh, Donald P., R. D. No. 2, Mercersburg, Pa. Illegal device .. 20.00

Cbaugh, Donald P., R. D. No. 2, Mercersburg, Pa. Violation of the ules and regulations 20.00

Shenkle, Welty G., R. D. No. 4, Waynesboro, Pa. Fishing without license 25.00

Hntingdon County

Ne, Glenn A., Petersburg, Pa. Fishng without a license 25.00

Jerson County

Mers, John E., R. D. No. 4, Punxsuawney, Pa. Dynamiting fish 100.00

Lkawanna County

Juta, Joseph, 3515 Birney Ave., Minooka, Pa. Exceeding bait fish mit 20.00

Mnichello, Frank, 122 Sussex St., Old Forge, Pa. Violation of the ules and regulations 20.00

Lcaster County

Hh, James, Gordanville, Pa. Illegal evice 20.00

Kouse, Charles, 714 N. Pine St., Lancaster, Pa. Illegal sale of fish 20.00

Wrntz, George C., 321 N. West End Ave., Lancaster, Pa. Exceeding ait fish limit 10.00

Lanon County

Beshore, Louie, P. O. Box 78, Lebnon. Violation of the rules and egulations 20.00

Piss, Wm., 519 S. 7th St., Lebanon, Pa. Violation of the rules and egulations 20.00

Lerne County

Asczyk, Felix, 127 S. Main St., Ashley, Pa. One walleyed pike n closed season 10.00

Bas, Joseph, Retreat, Pa. Fishing with tipups during closed season 20.00

Dch, Frank, 41 Carpenter St., Luzerne, Pa. Violation of the rules nd regulations 20.00

Mntgomery County

Fost, Walter, 706 Garfield Ave., Ardsley, Pa. Violation of the rules and regulations 20.00

Henry, Joseph, 61 Holland Ave., Ardmore, Pa. Fishing without a license 25.00

Wasson, Willis B., 415 Sylvania Ave., Glenside, Pa. Violation of the rules and regulations 20.00

Wilson, Ed., 2447 Woodland Ave., Roslyn, Pa. Violation of the rules and regulations 20.00

Northumberland County

Motter, W. A., 205 N. 4th St., Sunbury, Pa. Exceeding creel limit .. 10.00

Motter, W. A., 205 N. 4th St., Sunbury, Pa. Interference with officer 100.00

Philadelphia County

Felder, Horace, 531 Emily St., Philadelphia, Pa. Violation of the rules and regulations 20.00

Gabrielski, Wallace, 2441 E. Duncan St., Philadelphia, Pa. Violation of the rules and regulations 20.00

Rojewski, John, 2438 E. Duncan St., Philadelphia, Pa. Violation of the rules and regulations 20.00

Schaeffer, Richard, 413 Berks St., Phila., Pa. Violation of the rules and regulations 20.00

Sherman, Maze, 734 Mercy St., Philadelphia, Pa. Violation of the rules and regulations 20.00

Smith, Gordon, 1945 N. 4th St., Philadelphia, Pa. Violation of the rules and regulations 20.00

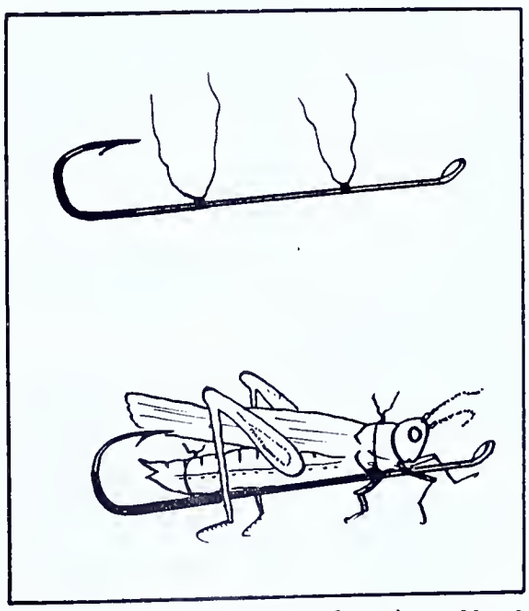
Schuylkill County

Good, Clarence, 245 Commerce St., Port Carbon, Pa. Violation of the rules and regulations 20.00

Jacusky, Charles, 62 E. Bacon St., Palo Alto, Pa. Violation of the rules and regulations 20.00

Reed, Lamar, 356 Front St., Pottsville, Pa. Violation of the rules and regulations 20.00

Reed, Marlin, 320 N. George St., Pottsville, Pa. Violation of the rules and regulations 20.00



This "grasshopper" hook has fine wires soldered to the shank. This prevents the "hooper" from being torn from the hook during a cast.

Wintersrien, Raymond, 146 W. Savory St., Palo Alto, Pa. Violation of the rules and regulations 20.00

Woods, Charles, 170 E. Savory St., Palo Alto, Pa. Violation of the rules and regulations 20.00

Somerset County

Deeter, Milton H., Jr., R. D. No. 1, Somerset, Pa. Violation of the rules and regulations 20.00

Meck, Thomas, Central City, Pa. Fishing in streams without the consent of the owner 25.00

Washington County

Ozenich, Robert, Lawrence, Pa. Violation of the rules and regulations 20.00

Wyoming County

Croasdale, Enos J., R. D. No. 2, Nicholson, Pa. Illegal device 20.00

Henry, William, R. D. No. 3, Tunkhannock, Pa. Illegal device 20.00

York County

Brown, Paul M. Jr., 200 Pattison St., York, Pa. Violation of the rules and regulations 20.00

Dellinger, John, 241 E. Princess St., York, Pa. Violation of the rules and regulations 20.00

Louder, William, Jr., 233 N. Newberry St., York, Pa. Violation of the rules and regulations 20.00

Minnich, Harry Jr., Hellam, R. D., Pa. Illegal device 20.00

Murphy, Robert, 566 Company St., York, Pa. Violation of the rules and regulations 20.00

Spangler, Ralph, 257 N. George St., York, Pa. Illegal device 20.00

Wolf, Leonard L., Mt. Wolf, Pa. Operating motor boat without displaying license 10.00

Club Given Talk on Pollution

Clean streams and stream pollution was the theme of the address by Maynard Wood, representative of the sanitary water board of the State Department of Health at the fish boosters meeting held by the Hellertown Sportsmen's Club.

Mr. Wood stated that the two objectives in the clean streams program are to protect health and conserve water and the state is confronted with four problems in order to clean these streams, namely, sewage, industrial waste, silt and acid mine drainage. All four will kill and harm fish.

He reviewed the history of the sanitary water board and cited many numerous examples of how it has influenced industrial plants, mine operators and municipalities to treat their waste waters before running it back into the streams.

Previous penalties were $100 fine but now with new legislation penalties for each violation are up to $5000 and a year in jail. He commended the sportsmen's organizations and fish wardens for reporting stream pollution throughout so it could be quickly acted upon and remedied. He showed the board's motion picture, "Clean Streams."

The Diatoms

By Carsten Ahrens

Diatoms are plants with some most unplantlike characteristics. They have been classified with the brown algae. Plantlike, they manufacture their own food from carbondioxide and water in the presence of sunshine. But they're little like plants when they seem to locomote, and they seem something like mollusks for each is surrounded by a transparent shell, a pill-box case of pure silica.

They are found all over the world. They're in freshwater and in salt water. Some species float freely; others are sessile. Some are solitary; others live in large colonies. They occur in tremendous numbers in the ocean where they become the principal item in the diet of the whalebone whale. The big creature gulps in great quantities of ocean water and diatoms, and separates the water from the plants with a neat arrangement of whalebone which hangs in his mouth, acting as a strainer.

All of the diatoms are one celled and must be studied through the microscope. They are a very ancient form of life, having existed on our earth for many millions of years. There are some 10,000 varieties of them. One fact that always surprises the student is that the same species are living today that lived a quarter of a billion years ago. He finds the same intricate patterns in the fossil forms that he finds in living forms and can recognize them easily. Evolution seems to have ignored the diatoms.

The microscope disclosed a bewildering assortment of shapes among the diatoms. There are crescents, circles, disks, triangles, rafts, needles, boats, and stars. These are further decorated with all manner of exquisite designs seemingly etched upon them, or with projections like spines and nodules which would give an extensive surface area.

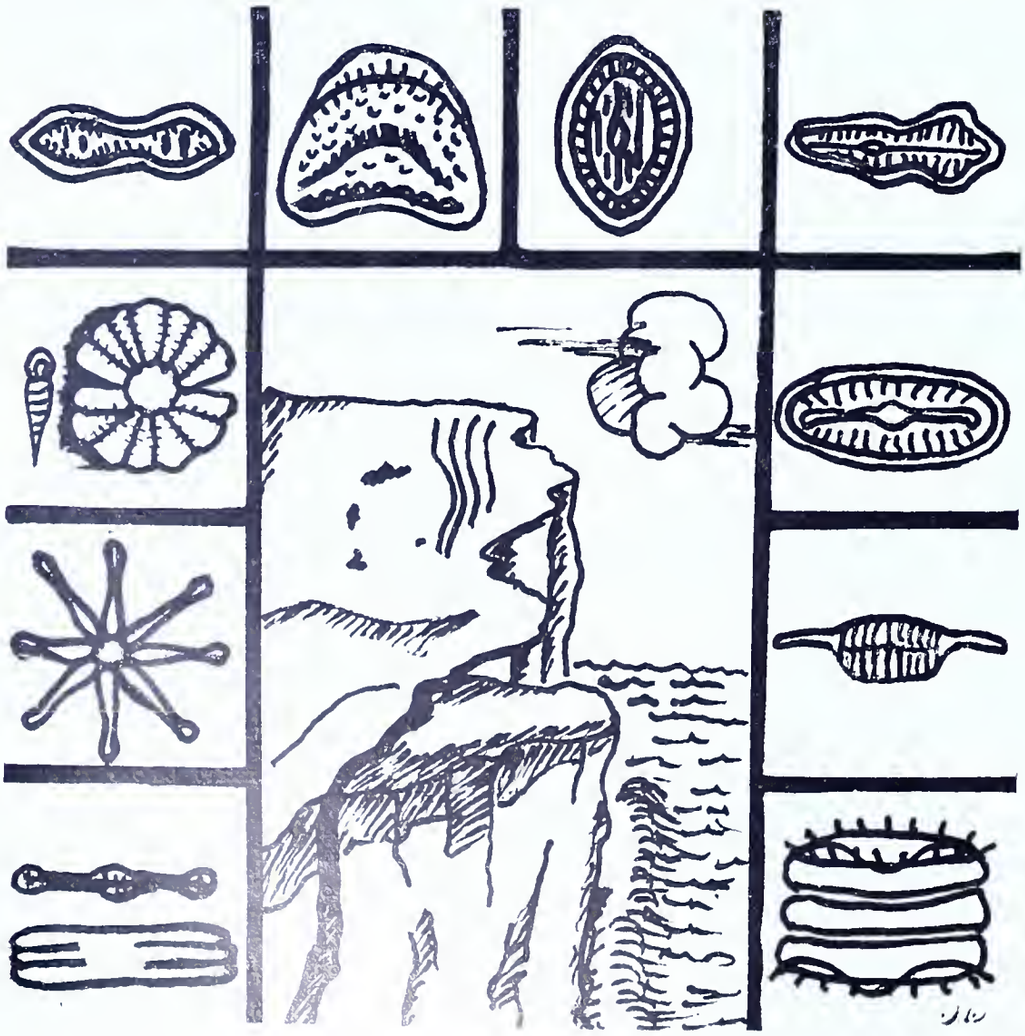
Reproduction is without sex and by simple division. So rapid is reproduction under favorable conditions that it has been estimated that a single individual might give rise to a billion diatoms within a month's time.

Some years ago I had the interesting experience of visiting the famous Lompoc Quarries of California. Here were the white, chalky remains of these water plants of some prehistoric age. The brilliant sun turned the miles of whiteness into something that was dazzingly painful until we were supplied with sun glasses. We were told that the individual skeletons of these small plants were so minute that 40 million might be found in one cubic inch. We speculated on the astronomical number of diatoms in this one deposit which was about 6 miles square and an estimated 700 feet deep.

Deposits of the shells of diatoms occur in many parts of the world. Usually they are referred to as *diatomaceous earth.* The powder is quarried and used by industry in a number of ways. Huge amounts are used for filtering raw cane sugar solutions in the refining process. It is added to concrete and clay in making bricks for thermal insulation. It is used in scouring soaps, tooth pastes, and metal polishes.

Because of their rapid reproduction and their ability to take inorganic substances and by photosynthesis change them into living protoplasm, the diatoms must be an important link in the food chain of animals.

Each diatom as it matures gathers within its box-like shell a minute bit of oil. After death, the silica case and the oil remain. Sometimes weather conditions makes it possible for great masses of almost pure diatomaceous remains to settle to the ocean bed. Such a deposit has been described by Card and Dun off Victoria Land in 70 S. Latitude. The deposit was 400 miles long by 120 miles wide and of unknown thickness. The theory is that the original oil of such a mass plus the oil formed by the decomposing plants might be the origin of considerable of our petroleum.



The Rainbow Trout

(*From Page* 9)

popular each year. The lighter test lines in the 6 to 10-pound range are preferred together with a lightweight casting reel. A long nylon leader of equal poundage should be used.

Spinning is ideal in some of the larger streams, for with this type of outfit it is possible to attach a ⅛ or 1/16 oz. weight to a fly and cast it much farther than it is possible to reach with a fly rod or casting rod. An ideal lure for spinning is the midgit digit.

Most trolling for rainbows is done only in the larger lakes and streams, and the standard lightweight casting rods like the "Pal" and casting reels like the "Pal" are excellent. The use of all nylon leader is recommended and any of the smaller lures such as midget river runt or midgit digit are productive. Some trollers prefer the stiffer action fly rods and troll slowly around the "drop-off"—that is, where the shoreline suddenly drops into deep water.—*Heddon Fish Flashes.*

Springtime in Potter County

I sat and looked till the sun went down
Just five miles east of a little town—
In a northern County of our fair State
It was a sight, to you, I'll now relate.

Ridge upon ridge with a thousand shades
Greener than those of the Everglades—
Held by its rapture, serene and sublime
Dazed by the glories of glad springtime

Down at their feet runs a sparkling brook
Wending its way through each tiny nook—
Clean as a whistle, clear as a bell
Singing its praises to each hill and dell

Shy speckled beauties flit thither and then
Playing their games as the brook rolls on—
At night the coon comes down to fish,
But the trout all know his favorite dish

So away from the smoke and city smell
Nature's children are made to dwell—
That we poor mortals may plainly see
And understand more about, Eternity.

W. W. Britton.

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

our Mine Permits Denied

Four additional coal mine operators have een denied permits by the Sanitary Water oard under the Clean Streams program be- ause their projected operations are located ong clean streams to which any acid mine aters which would form would be dis- harged. In each instance applications for ermits were made by the operators.

Gilleland Coke Co. was denied a permit r a stripping operation in Franklin Town- ip, Fayette Co., located along Lazy and llen runs, both clean streams and from hich the entire water supply for Smock, a mmunity of 1,500 people is procured by e Trotter Water Co.

Mercer Coal Producing Co. was denied a rmit for the operation of a strip mine in ill Creek Township, Mercer Co., located ong Little Sandy Creek, a clean stream om which most of the water supply for the lk State School for Feeble Minded is pro- red.

Barron Coal Co. was denied a permit for e operation of a strip and a deep mine in per and Lower Turkeyfoot townships, merset Co., located along an unnamed butary of Laurel Hill Creek, both clean eams. The company proposed to set up system to treat the acid mine wastes but e Board declared that in its opinion there no practical method of treatment at the esent time, a position supported by the ellon Institute, Pittsburgh, which is con- cting research into that problem for the ard.

Krach & Gearhart was denied a permit for stripping operation in Brady Township, earfield Co., along the East Branch of ahoning Creek, a clean stream which is a urce of public water supply of the Punx- tawney Service Co.

mmunities Plans Approved

The Sanitary Water Board has authorized e issuance by the Bureau of Engineering, ate Department of Health, of permits ap- oving plans for sewage systems to 11 addi- nal communities and one industrial plant, der the Clean Streams program.

The permits will be issued to White Haven, zerne Co., intercepting sewers and sewage eatment works; Baden, Beaver Co., exten- n to present sewer system; Pittsburgh, ex- nsions to sewer system; Bloomfield, Perry . extension to sewer system; Monaca, aver Co., intercepting sewers and sewage eatment works; Whitehall, Allegheny Co., tension to sewers; Scott Township, Alle- eny Co., extensions to sewers Longvue sopsal Co., McCandless Township, Alle- eny Co., extensions to sewers and enlarge- ent of sewage treatment works; Mill Creek wnship, Erie Co., extension to sewers; ldwin Township, Allegheny Co., exten- n to sewers; Greensboro, Greene Co., in- rcepting sewers and sewage treatment orks; Jones and Laughlin Steel Corp., esta-Shannopin Coal Division, West Beth- lehem Township, Washington Co., sewage treatment works for mine change house.

The Board also issued an order to Keating Township, McKean Co., requiring the abate- ment of pollution of the streams or the sub- mission of plans for a sewage treatment works.

Orders Issued to Municipalities

Orders to construct sewage treatment works and to have them in operation by June 1, 1952 have been issued by the Sani- tary Water Board in furthering the Clean Streams program, to the remaining munici- palities along the Susquehanna River and its two branches. The first action of the Board covering that river basin called for orders to go to all communities, including Harrisburg along the main river from the Maryland-Pennsylvania boundary to Sun- bury and along the West Branch to and in- cluding Lock Haven and along the North Branch to the Confluence of the Lackawanna River, and to all communities along the Juni- ata River and its tributaries.

Construction orders were sent between February 28 and March 3 to 22 municipalities along the Susquehanna River and its branches and to seven on the Juniata watershed. All those communities had submitted plans for sewage treatment works and were approved by the Sanitary Water Board.

Under the latest action of the Board all municipalities along the tributaries of the river and its branches within the limits designated in the first action, will receive construction orders with the same require- ments that the sewage treatment works be built and placed in operation by June 1, 1952.

11 Municipalities Receive Aid

Eleven more municipalities have received grants-in-aid from state funds representing payments for a part of the cost of preparing plans for sewage treatment works, required by the Sanitary Water Board under the Clean Streams program. Payments to those munici- palities total $48,224.24, bringing the total of State funds paid to date for this purpose to $784,677.96. The total of municipalities having now received the grants is 154.

The latest payments went to Catawissa, Columbia Co., $1,214.19; Lykens, Dauphin Co., $2,137.50; Upper Dublin Township, Mont- gomery Co., $660.39; Ashland, Schuylkill Co., $5,128.41; Phoenixville, Chester Co., $4,586.74; Huntingdon, Huntingdon Co., $8,233,89; Hazleton, Luzerne Co., $15,639.18; Middle- burg, Snyder Co., $1,627.78; Norwood, Dela- ware Co., $3,852.89; Montgomery, Lycoming Co., $1,780.67; Punxsutawney, Jefferson Co., $3,382.60.

Under the Clean Streams law municipali- ties required to prepare plans for sewage treatment works received up to 50 percent of the cost of those plans, based upon 1942 prices, from State funds.

Two More Towns Get Orders

Two more municipalities have been added to the growing list of those ordered by the Sanitary Water Board to build sewage treat- ment works and have them in operation by specified dates in the vigorous promotion of the Clean Streams program.

The latest construction orders have gone to Spring City, Chester Co., requiring the building and placing in operation of second- ary treatment units as additions to the exist- ing plant of primary treatment to provide a complete treatment of the sewage. The completion date is set for January 1, 1951.

The other order was issued to Phoenix- ville, Chester Co., also along the Schuylkill River. The population is about 15,000 and as in the case of Spring City the order is for construction of an enlargement of the exist- ing primary treatment works to provide complete treatment of the sewage.

Lack of Permit Closes Mines

Orders to cease the operation of their coal mines until a drainage permit shall have been received from the Sanitary Water Board have been sent to five additional operators in the bituminous coal field. Under the Clean Streams law, it is pointed out, it is illegal to open or reopen a coal mine with- out a permit from the Board.

The latest orders went to the following: Petroski & Carr, Slickville, stripping oper- ation in Saltlick Township, Fayette Co.; Hill- man Coal Co., Punxsutawney, strip mine in Gaskill Township, Jefferson Co.; Smith & Zindel, LeContes Mills, strip mine in Cov- ington Township, Clearfield Co.; D. J. Musser, Berlin, strip mine in Brothersvalley Town- ship, Somerset Co.; C. W. Dillon, Calumet, strip mine in Mount Pleasant Township, Westmoreland Co.; Somerset Coal Corp., Somerset, strip mine in Brothersvalley Town- ship, Somerset Co.

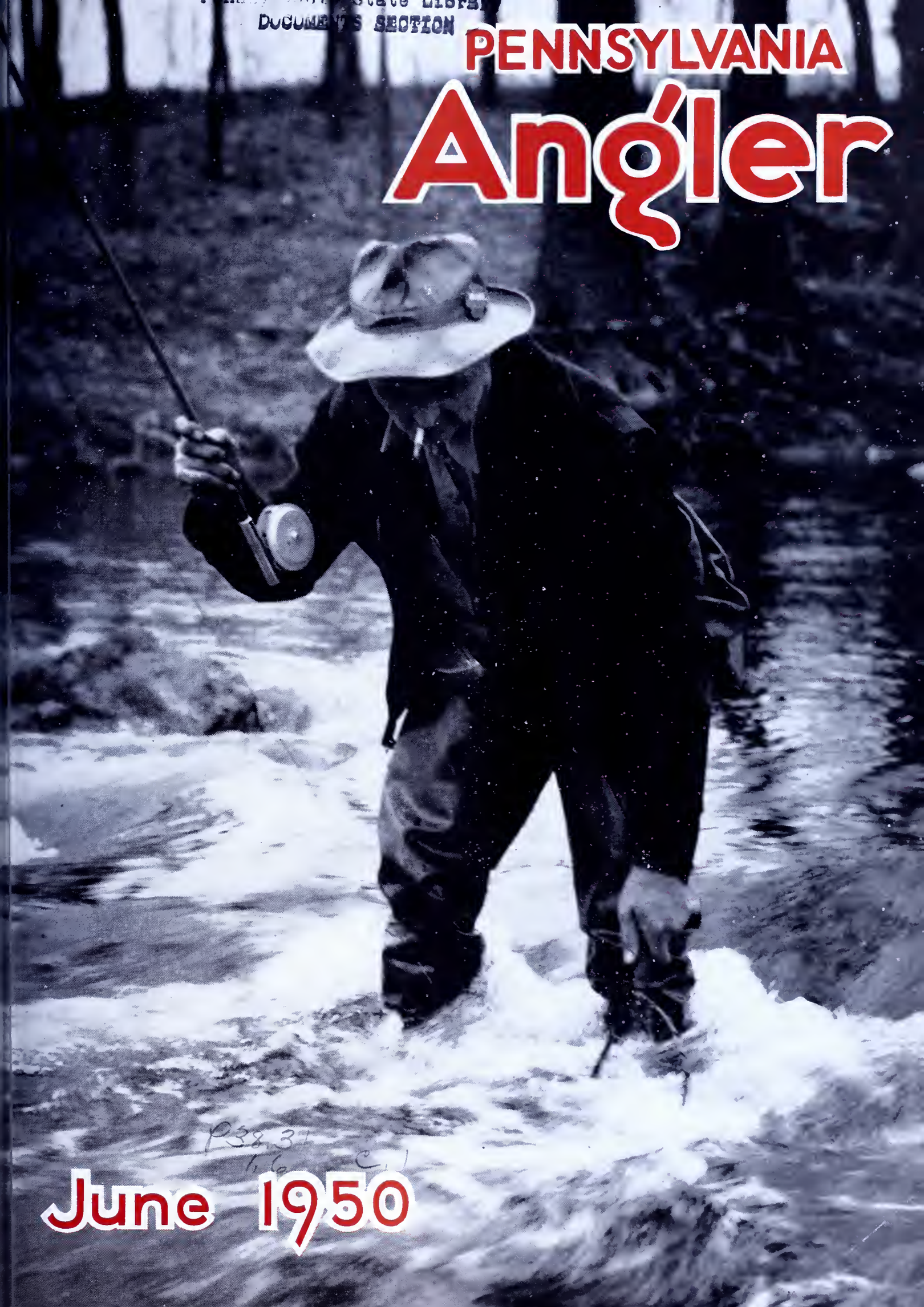
More Clean Streams Orders

Orders to abate pollution of the public waterways or to submit plans for waste treatment systems have been sent to eight additional industrial concerns by the Sani- tary Water Board in furthering the Clean Streams program.

They are Pittsburgh Tallow & Hide Co., Moon Township, Allegheny Co., along Mon- tour Run; Bridgeville Glass Works, Collier Township, Allegheny Co., along Chartiers Creek; Longacres Dairy, Washington Town- ship, Berks Co., along Northwest Branch of Perkiomen Creek; Lenkerbrook Dairy, West Hanover Township, Dauphin Co., unnamed tributary of Swatara Creek; Speece's Dairy, Middle Paxton Township, Dauphin Co., Sus- quehanna River; Penn Packing Co., Royalton, Dauphin Co., Susquehanna River; Fred J. Maurer, abattoir, Tremont, Schuylkill Co., Schuylkill River; Farmers Fairfield Dairy Co., Muhlenberg Township, Berks Co., Laurel Run, Schuylkill River.

DOCUMENTS SECTION

PENNSYLVANIA Angler



June 1950

PENNSYLVANIA Angler

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HON. JAMES H. DUFF, Governor

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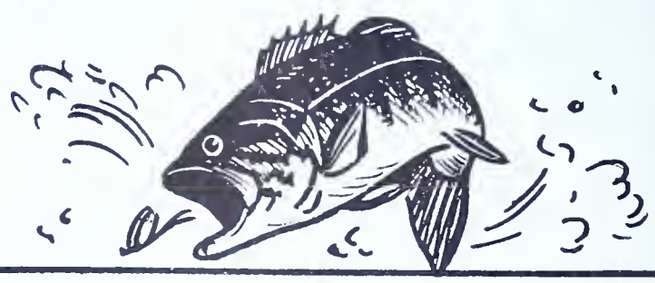

ommonwealth of Pennsylvania
PENNSYLVANIA
ish Commission
Harrisburg, Pa.

The Angler

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lean clear water guarantees good t and recreation.

hoto by James Balog.

A Drop of Water

By Don Blair

THESE two old men were camping and fishing on Sandy Creek, in Mercer County, one day in July. Age is naturally relative. Even so, both these men were well past the ordinary age for retirement. They were of that age of man from whom all bitterness has been filtered through the sands of time.

They had been on a vacation, they said, ever since trout season opened. They had a battered sedan rigged for camping with a built in double bunk. And with a gasoline cookstove, plus a mountain of assorted camping and fishing gear, they were in truth vacationing. Nearly three months they had lived aboard that car, they said, fishing where and when they pleased. I gathered it was the vacation of a life-time.

We talked of brooks and creeks and rivers and fish. Yes, they had fished the Kettle. And First Fork. He caught a 13½ inch fallfish in First Fork. No, they had not seen the First Fork in all the forty years it was polluted. But they had seen the Clarion this summer. Yes, it was like that, maybe worse.

When I mentioned a tiny beaver pond set high along a forest road between Cross Forks and Wharton, they knew it. We stayed there, they told me. It's cram-jammed full of little trout. And they said they would have stayed there longer only they ran shy of grub.

A picture of these two aged happy fishermen has crossed my mind many times since we chatted that midsummer day in Mercer County. They had stood on the rim of the Canyon of Pine Creek and looked far. And then camped in the valley and caught some fish. Now, finally, the reason I kept thinking about these two old fellows is clear. It was not an accident they were able to travel so widely, camp where it pleased them. and fish a beaver pond cram-jammed with little trout! Certainly they could not have had their vacation so easily a generation ago.

If you could only step backward, say, twenty-five years. Maybe I can explain it best by saying we had practically no roads in the mountains twenty-odd years ago. There was good fishing in the Kettle Creek country a quarter century ago. And a few dozen fishermen. There are thousands of fishermen in that country today, fishing the same waters. And the fishing is good. Fifty mile an hour highways span the hill country. Now great forests cover all that north central section. A quarter of a century ago we hunted deer in open barrens where they jumped and ran like rabbits through clipped pasture grass. But lately the forests are grown. The hills are covered. And the reason we have those forests lies principally in the foresight that established a network of firetowers scattered far across the state of Pennsylvania.

Roads and forest fire prevention are not the only things that made it possible for our two old friends to enjoy their vacation of a lifetime. Call it symbolic if you like, the fact remains that a good and great amount of work has been done toward repairing and improving the Pennsylvania we inherited.

There were Game Commission men farsighted enough to buy land, establish refuges, restock beavers and other animals; and to spend millions of manhours of labor to make Pennsylvania a better vacation land. Consider also the work accomplished by Fish Commission men in these past years. So it goes, from Secretary of Highways to maintenance crew

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Ecological Sense or Nonsense (IV)

By Alvin (Bus) Grove

SEVERAL months ago at the Pennsylvania Farm Show in Harrisburg I stopped at the booth of the Pennsylvania State Game Commission and paid fifty cents for four little booklets on conservation. They are published by the National Wildlife Federation, Inc., and are in order entitled: "Would You Like to Have Lived When—?", "Raindrops and Muddy Rivers," "Plants and Animals Live Together," and "Nature's Bank—the Soil." They interested me particularly because they are graded or listed for children under the categories of: grades 3, 4, and 5; 4, 5 and 6; 5, 6, and 7; 6, 7, and 8. I had to have these four booklets on conservation because in the first place I reasoned that I would probably understand them, and in the second place I had an idea.

Several weeks ago an associate and I were talking about an article on conservation, and his one warning comment to me was, "Make it simple." In further conversation we agreed that too often subject matter that was not really so complicated or difficult in itself was made so by the method of its presentation. On the other hand there is no reason at all, regardless of the complexities of certain information and knowledge, why its method of presentation cannot be simple and lucid.

Several nights ago I picked up John Walter Hill's "A Summer on the Test," and in reading the preface to the first edition ran across this statement in reference to our changing fishing habits and the Test river: "Only the Test will be the same, and its trout, and the sport of fishing, and possibly the Grosvenor Arms. The river will remain, so long as a growing town population does not abstract all its pure springs. The trout will be there, until tar poisoning kills the last. And where clear waters and trout are found, there will fishing be found also."

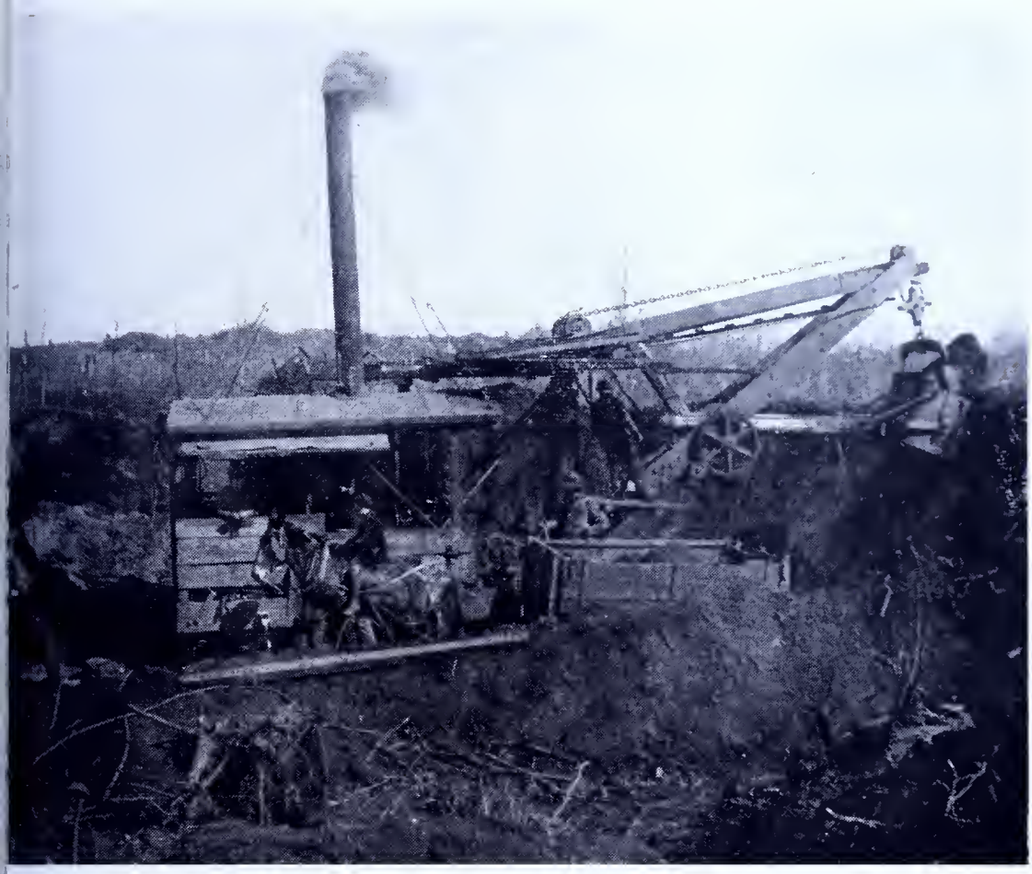
On a little reflection these three experiences seemed to go together. Here was a statement written in 1924 by one of our most enjoyable authors of fishing books that was a perfect example of clarity and fact. There is no questioning its simplicity or its ominous prediction. It appeared to me that here was an excellent example of my associate's suggestion, and what better way could be found to carry out the idea than to start with a series of booklets on conservation designed for grades 3, 4, and 5.

An excellent club project in the field of conservation might be to make these booklets available to our Junior Sportsmen, the conservation clubs in our public schools, and perhaps even to ourselves in spite of the fact that we consider ourselves men and have now put away childish things.

The first little booklet is entitled "Would You Like to Have Lived When —?" This is a pleasant little story of David Robinson who takes a trip across our continent to see our forests, the plains, the prairies, our mountains, and our streams. His trip is an amazing revelation of the living and doing of nearly 150,000,000 people and the changes that have come about in their land as they pushed ever westward. Eastern forests have given way to cleared lands and crops; a great many of our fur bearing animals to the trap line, and in turn to the style of coats and hats worn by both American and European ladies and gentlemen; certain fish migrations to the big power dams; clear streams to muddy and too often polluted ones; the groves of trees in Ohio and Illinois to clearings for farming; the short grass plains to the plow and the dust bowl. Of course much of this was necessary, for after all where was our population supposed to go, and how would they be fed? However, in our ever rapid expansion we cut too much timber, trapped too much game, killed too many fish, plowed too much land, and today we are with our right hand continuing this process in too many places while with our left we are trying to rep the damage already done. In spite f floods in West Virginia, Ohio, a d along the Mississippi drainage basi acres flooded in spite of the dikes— e are building new ones in Pennsylvar The Chinese have an old prove "Build the dikes high and live in fe build them low and live in peac Could it be so? Ohio is planning blow out several dozen small da built not long ago for flood control cause more area is flooded with th than without, but we are urging t building of new ones in Pennsylvar The conservationist awakens as if fr a nightmare and asks, "Can this ha pen here?" David Robinson's st may be for grades 3, 4, and 5, but w not for 30, 40 and 50 as well?

The second booklet is entitled "Ra drops and Muddy Rivers." The fi page claims that it is for grades 4, and 6, and I rather reluctantly decid this must be my level because learned a great deal from reading The first of the story has to do w the presence of water in places whe it is often overlooked. I was surpris to see a picture of a carrot, but th I remembered that I had taught st dents of Botany at one time that plar frequently consisted of as much 90% water, and certainly 75% wou be a very conservative figure. I rec now that I myself was surprised wi

Clear cutting shown here led to rapid run off of surface water, erosion, silting and was a contributing factor to our present floods. This picture was taken about 1895.



Take the timber and then the soil. Note particularly that this is not a modern operation.

ie idea that a plant, which is three-urths water, could stand up out of ie soil and have enough consistency that it could be cultivated, har-sted, or, in some instances, cut down id made into lumber. Even in the y state, seeds and grains will contain % water. Now perhaps the water plants and animals is not considered the water of conservation, but cer-inly it is important to me and to you. ie game, which we shoot, might be much as 50% water. Can you vic-alize a grouse or deer being half ater? Honestly, it is hard for me to so, and yet these are the facts. ater for some reason or other now egins to take on a slightly different peal to my imagination, and I find y concept of conservation enlarging id encompassing more and more ideas id territory. When I recall that the urce of this water, as well as that hich we need for drinking purposes, fill our springs, and to water our ops, must come from rainfall and at it must be retained in locations here the fish and game can get it id use it as one of their fundamental uilding units, I begin to consider a ttle more seriously the danger of o rapid run-off; the overflow that I e in our creeks and rivers begins to e converted into pounds of game and sh. To the biologist, water may mean fe; to the chemist, it might mean olutions and reactions; to the farmer, might mean crops; and to the ancher, pounds of prime beef. But to ie conservationist, it should mean all of these. Water is commonplace in most locations, and we assume its ever presence; but its distribution on the earth has far reaching effects, and its importance can hardly be overestimated. Much of the continent of Australia is desert, and it would appear that water alone is the determining factor. There is a large desert area in Africa for the same reason, and in the United States we have the semi-arid region of the Southwest, and Death Valley to remind us of its importance. It is water that determines the areas known as the plains and the prairies, the steppes of Russia, the pampas of Argentina, and the savannas of Africa. It has been estimated that each corn plant, which grows, requires in its lifetime about 50 gallons of water, and when you multiply this by the 10,000 plants of corn per acre and the thousands of acres planted in this country in a single year, the number of gallons needed for this one crop alone begins to take on astronomical size. Figures and facts such as these somehow lose their importance to us, but can we, as conservationists, really afford to "play" with the problem of water? Water, with the problems involved, deserves to have the best brains in the country consider it, and the rather irresponsible overcropping, overgrazing, and overstripping must stop. We dare not build dams, dikes, levees, or dredge channels and similar diversions just because someone thinks they are nice or will provide employment or a convenient recreational spot for boating. We are playing with water as a small boy might with a new toy when in reality here is a single factor that has had more to do with the distribution and development of civilization, trade and commerce, agriculture

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Lumber in Weiker Run area of Pennsylvania. Notice the great waste. Picture probably taken during the 1890's.

Tying Those Dry Flies

By Don Shiner

RECORDED in the *Book of St. Albans,* published in the year 1496, is the fact that fishermen of that era went astream in quest of trout, armed with a 20-foot rod and a dozen flies. One can hardly imagine that men tied and used bits of feathers fastened to a hook to capture fish at this early date, yet such is the case! Christopher Columbus, the man who discovered America, may not have used flies to capture fish, he may never have enjoyed angling as a sport, but there were sportsmen of his day who practiced the art of fly fishing and fly-tying. The fact that fish will rise or give chase to a feathered hook is one reason why the sport of fishing has grown to the gigantic following it has today.

Tying these flies has developed into a science or art today and is a hobby often referred to as nothing short of fascinating. I know of no other way that causes time to pass so quickly as it does when an angler is bent over a fly tying vise, nor a more pleasant atmosphere than that of a desk covered with bits of colorful feathers, tinsel, yarn and fur. Ask any of them too how grand the feeling is when they hold a handful of flies just completed, or the pride felt when outwitting a fine trout on a fly constructed by yourself. It adds something to fishing that is otherwise unknown.

To those that as yet have not tried their hand at this "art," why not do so now? You'll find it a wonderful pastime for those evenings when the weather is not suitable for going outdoors. You can set at your desk or at a small bench in front of the roaring flames in the fireplace and produce dozens of flies in an evening's time.

Don't think that you can't accomplish this, and that fly tying know-how is limited to only experts, such is not the case. Chances are the first fly you attempt to tie will amaze you with its handsome appearance. Fly tying amounts to nothing more than about 30 turns of thread around a hook holding bits of feathers securely in place. And it's fascinating to watch the fly take shape as it progresses step by step to a completed lure, and this same fly may be the one that will fill your creel this trout season!

In contrast to the 12 patterns used in the days of Columbus, there are over 30,000 recognized patterns today, all originated from men who were intrigued by this pastime. Take for instance the Royal Coachman dry fly, originated by John Haily, a New York fly-dresser, in the year 1878. It is one of the most potential fish getters of all flies, one of the most popular today, and one that is excellent to learn fly-tying from. Even after these 60 odd years, this fly remains a challenge to every fly-tier to create a better all-around fly.

How is this famous fly tied? First, a certain amount of tools and materials must be obtained. You can get along very nicely with a fly vise and a pair of finely pointed scissors. For materials, a small assortment of duck win feathers, some hackle feathers (thos long fibered feathers found on the nec of domestic roosters), a few spools c floss in assorted colors, some yarn an chenille, and a few fancy feathers suc as peacock tails and golden pheasar tippets, will be enough to begin witl

Once these materials are set befor you, the first step in tying the Roya Coachman dry fly is to insert the hoo in the jaws of the vise and clamp tightly. This will allow you to wor with both hands. At first your finger may be all thumbs, but after a few flie you'll be surprised how nimble the become.

Cut a piece of thread about two fee long and draw it over a piece of wa to waterproof it. Then, tie the threa fast to the shank of the hook, som where near the center. It is now i readiness to have the tail tied in plac For the tail, select a few fibers from golden pheasant tippet, hold these wit the left hand on top the hook near th bend. Then, wind the thread aroun the hook and material, thus bindin the tippets in place.

Next, add the wings to the fly. Fc this, select two white hackle feather and place them on top the hook wit the tips extending beyond the eye c the hook. Wind a few turns of threa around the hackle feathers bindir them in place, then wind a few turr of thread in front of them, thereb making them stand erect.

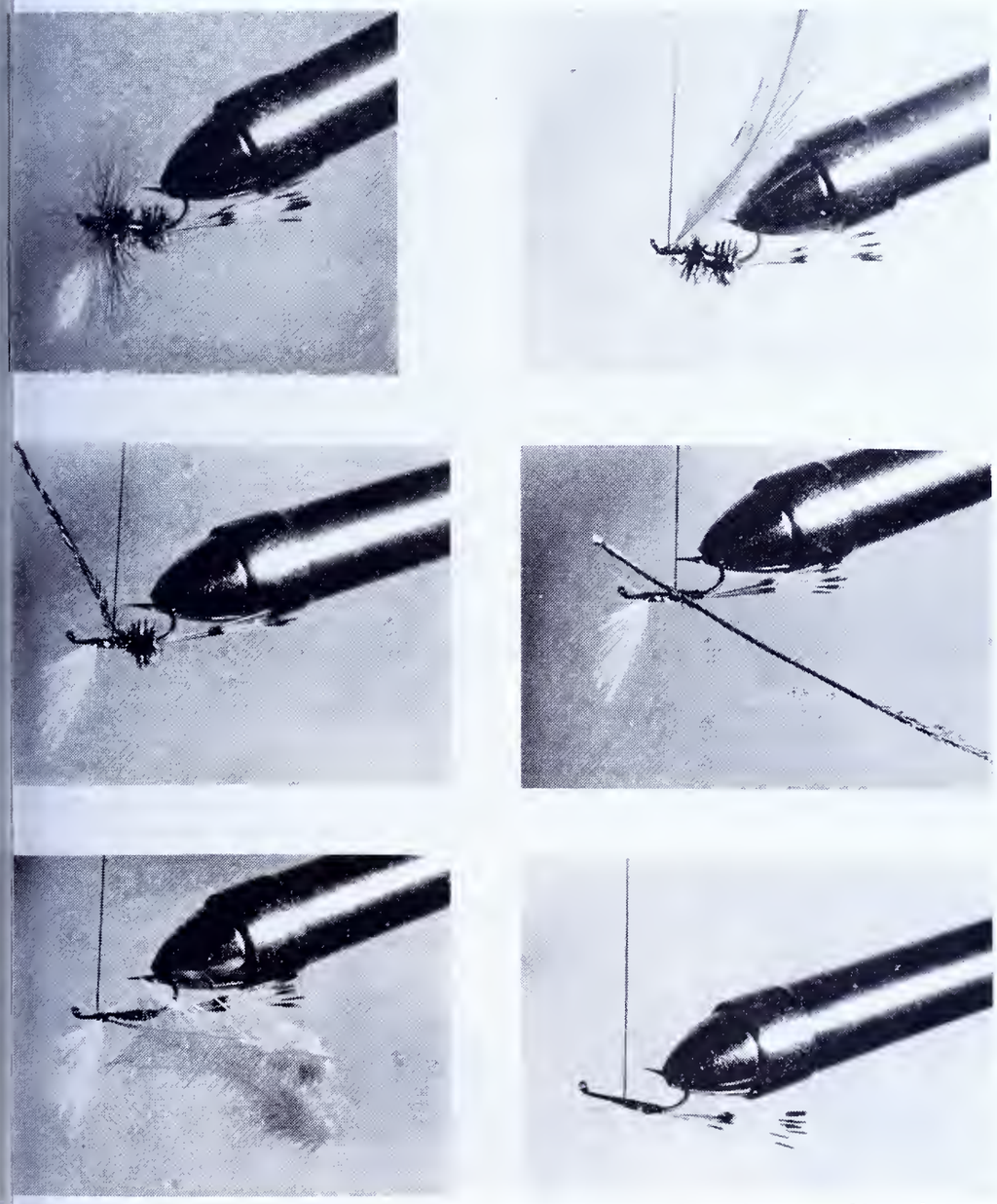
For the body, use a long peacoc herl and some red silk floss. Tie bot of these materials fast to the hook, the wind the herl around the hook t within a third of the distance to th wings. Stop at this point and wind th floss a few times around the hool Finish by winding the herl the remair ing amount of distance to the wing Thus, the tail, wings and body of th Royal Coachman fly has been com pleted.

The fibers that project outward fror the fly are made by winding a hackl feather around the hook. Tie a brow hackle feather fast to the hook in fror of the wings and grip the free enc slowly winding it around the shank i front and to the rear of the wings. Th fly is now ready to be finished "off. The knot used to finish a fly is very im portant for unless it is tied properly the fly can very easily unravel.

Fly tiers have originated the "whip knot, and while it takes a little time t master this knot, it actually is quit simple to make. Start this knot b holding a toothpick or similar pointe object a slight distance above the ey Then, wind the thread around th tooth pick and hook, forming three o

The author at work

Materials and tools for fly tying are: Vise, scissors, hackle pliers, thread, wax, floss and enille, breast feathers from ducks, rooster neck hackle feathers and an assortment of good hooks.



To tie the Royal Coachman dry fly begin by tying a few fibres from a golden pheasant ippet feather (or substitute a few wisps of hackles from a brown feather) and tie this to the ook near the bend by wrapping the thread around the material and hook. Then, tie in the tips f two white hackle feathers to form the wings. Next tie in a herl fiber from a peacock feather nd a piece of red floss. Wind first the peacock around the shank, then the red floss and finish he body by wrapping the remaining part of the peacock next to the wings. Finally tie in a ackle feather (brown), wrap this around the hook in front of the wings. The Royal Coachman y is now complete.

thread through the loops and pull it tightly. To make doubly sure the fly will not unravel, coat the thread with varnish or cement.

The Royal Coachman fly is now complete, ready to be tied to a leader and cast into mid-stream for those waiting trout.

Indeed, there is no reason why every angler or fisherman should not tie his own flies and have his fly box filled at all times. Besides being a delightful pastime, fly-tying is the means of passing time when confined to the indoors and the means of filling the creel when the time is spent outdoors along the favorite stream. Why not try your hand at it now!

Delaware County Association Holds Field Day for Juniors

Recently the Delaware County Field and Stream Association held a Junior Field Day in which only Junior members participated. Fifty boys, ranging in ages from eight years to sixteen years were divided into ten groups of five boys each. Ten senior members of the Association were in charge, one leader to each group. At ten different points, covering the high power rifle range, small bore rifle range, pistol range, the traps, the skeet layout, plug casting court, fly casting court and three different points where fish, game and conservation could be discussed, a senior member (experienced in that particular phase of the outdoors, and assisted by a local Game Protector and local Fish Warden), was in charge to lecture and demonstrate to the boys. Fish laws and game laws were discussed, nomenclature of guns and proper method of handling and shooting were shown, proper ways to fly and plug cast were demonstrated, feeding game and building feeding stations in winter was explained, and at the discretion of the leader, most boys were permitted to shoot or cast, with emphasis on safety. Each leader carried a score card bearing the name of each boy and each contestant was scored for each event, for interest, participation, conduct, safety and knowledge. Each scoring item had a high rating of three and it was possible for a boy to be scored 15 points each of the activities he took part in, or a total of 150 possible points for the day. Sophomores and juniors in high school were further screened at the end of the days activities and the two considered best by the judges earned a week's trip to the Junior Conservation School held each summer at State College. All expenses for the trip will be paid by the Association. Ten other boys, three in the group from 8 to 11 years, four from 12 to 14 years and three from 15 to 16 years will be entitled to a three day trip to the Brotherhood of the Jungle Cock Campfire in Thurmont, Md., (sponsored by the Outdoor Writer's Association of America) and all expenses for these boys' week end will be taken care of by the Delco group. The contestants were also provided with a lunch of sandwiches, milk, cup cakes and soft drinks, all on the house.

Fly Fishing—Why?

By Dick Fortney

THE female fly lays eggs in water. The eggs sink to the bottom, hatch into larvae, change into nymphs, and rise to the surface again to take to the air.

There, boiled down into 30 words and stripped of a lot of complex scientific explanations, is the answer to the question:

Why can fish be caught on artificial flies?

In this natural evolution in the insect world lies the whole answer. Were it not for the year-after-year reproduction of the wide variety of species of insects on which fish feed, there would be no fly angling. And, incidentally, fish would be deprived of a source of forage which is their principal means of sustaining life and growth.

And imitating the appearance and action of real flies in creations made of fur, feathers, and steel is the problem the fly fisherman must solve if he is to be successful.

Any angler would observe a fast improvement in his fishing if he had an intimate knowledge of entomology, which is the science of insects. He would know, for example, what varieties of insects to expect at the various seasons of the year. He would know, also, in what particular kind of water —shallow riffle, or flat pool, for example—he could expect to find certain insects.

He further would be well acquainted with such important details as size, shape, and colorings of the insects he imitates with his lures.

Fishermen-entomologists are rare, naturally. But every angler can be informed on the subject of the evolution of the insect.

Let us consider the process described in the first paragraph of this article, step by step.

First, the female fly lays eggs in water.

This fact is of vital importance to the dry fly fisherman. When large numbers of female insects begin laying their eggs at the same time, the fisherman observes what he calls a hatch of insects. (That isn't precisely a correct definition. The hatch rather is the period when the nymphs emerge and unfold their wings. But still egg-laying is called a hatch).

Eggs are extruded from the bodies of the females. Some of the adults are so heavy with eggs that they have distinctly colored, usually a yellowish-green, sacs of eggs attached to their bodies.

Because they obtain rich nourishment from these eggs, trout feed on the female insects. Male insects are in evidence during this egg-laying period, incidentally, but they are not in much danger from hungry trout. The fish prey principally on the females.

Eggs of insects usually are laid in riffles, and if not there, in currents which have fairly good motion. Thus the moving water distributes the insect eggs over a considerable expanse of stream.

The female insect dies after its eggs are laid, and its body floats on the current in a sprawled-out position. Trout also feed vigorously on these "spent" insects.

The dry fly fisherman imitates the egg-laying insects with lures made to float on the surface of the water. The egg sacs are imitated by a small knob of material of the proper color tied at the back of the fly body. The dead insects are duplicated by flies which are made with wings extended horizontally instead of in an erect position.

Step No. 2 in the evolution of an insect is just the sinking of the insect eggs to resting places on the bottom.

In time these eggs hatch into larvae, and again the fly fisherman is interested, for trout feed a great deal—probably getting as much as 85 or 90 per cent of their food—on the insects in this stage.

Larvae of insects take many forms. They attach themselves to rocks and other underwater objects. Some remain stationary, but others are able to move about in the water as they grow and develop. Always, however, they are below the surface. The fisherman must remember this.

The caddis is one of the most interesting of the insect nymphs. It encloses itself in a small case—which looks like a bit of twig—for the period of its growth.

The fisherman in early spring may observe these cases in shallow w attached to the surface of flat rock plain view.

Trout also observe them, and e angler has caught trout whose stom were filled with these cases. The consume the whole business, t digestive apparatus disposing of case and allowing the trout to cons the juicy larva inside it.

Some fishermen use these case bait. Others break open the cases, tract the larvae, and use them as But even more interesting, artif lures which are good imitations of caddis case also can be made and with considerable success.

Step No. 3 is when the larva deve into a nymph, casts itself free of underwater refuge, and rises tow the surface.

On this stage of the insect t really make a feast.

You've seen the signs. Trout furiously in a riffle or flat. But t tails, not their heads, break the face of the water as they grab nymphs en route from the botton the surface.

The angler imitates the insects this stage with two types of lur nymphs and wet flies.

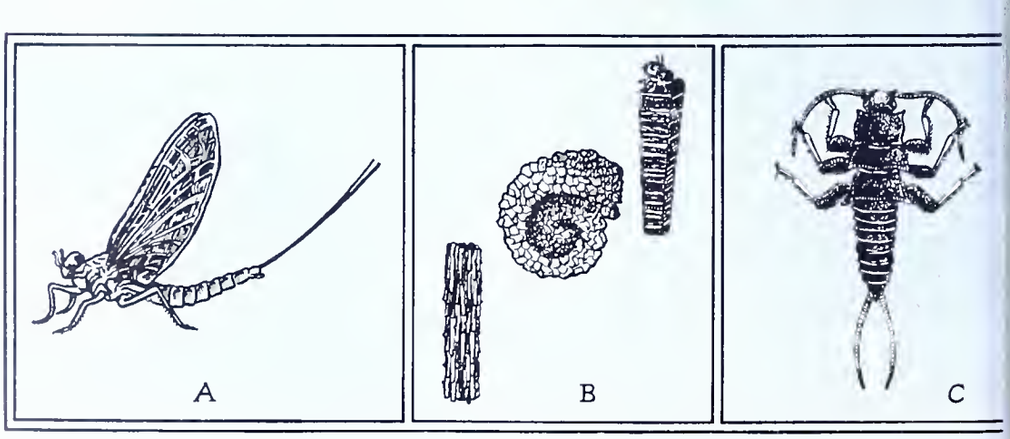
Nymphs are imitations of the f developed larva. Wet flies are dupl tions of the nymphs just before t emerge from the water.

En route toward the surface, young insect slowly, unfolds the w which will in time bear it aloft, i isn't gobbled by a trout. And imitation of these wings is import

In the case of the nymph, wings pear as little more than pads on bodies of the insects. In wet flies wings have begun to unfold, and t are a prominent part of the lure. the wings of the natural insect are weak and wet, folded clos against its body, and the wings of wet fly must also have that appearan

The nymph moves through the w in short, jerky stages. The nymph wet fly, generally speaking, must fished in the same manner.

The fisherman must bear in m



A—The fully developed aquatic insect, a choice tidbit for trout. B—Larva cases of t caddis. C—The nymph form of an aquatic insect.

nother fact about imitating natural sects at the nymph and wet fly ages. It is this: Trout get a close in-ection of such lures. The flies are own in the water, so there are no ght refractions. The trout, further, n inspect the lure leisurely—there is need for a dashing strike to enable e fish to take the fly before it floats t of reach.

So, more than in any other lure, the mph and wet fly must be true imita-ns of the natural insects. The size extremely important. The formation the body must be given careful con-deration. Colors have to be studied d imitated with precision.

All of this boils down to this state-ent: Catching trout with nymphs d wet flies is the most difficult ethod of all.

Finally, comes the last stage in the olution of the insect.

It reaches the surface of the water. s wings unfold and quickly stand ect and dry out. And the insect takes the air. Its mission is, in time, to y eggs and continue the propagation its kind. It begins all over again the ocess of evolution out of which it eveloped.

Emergence of the floating insects is e real fisherman's hatch. It is an nazing and interesting thing to watch a stream—to see insects appearing t of the water, and to see trout begin eding on them.

This is the dry fly angler's second nance in the evolution of an insect. e uses the same kinds of flies that e made to imitate the female fly which id the original eggs. They must float gh and dry, with wings cocked and ect.

The angler has a bit more leeway building the dry fly. Since it is oating on the surface, and the trout is own in the water, it does not appear arply defined to the fish. As a matter fact, it probably is very much dis-rted.

The fish, as some experts describe it, t an impression of the appearance the fly rather than an exact picture it.

Size is the important thing. The out will seldom take a big floating y when the natural hatching insects e small. Likewise, it will not get uch excited about small artificial flies hen large and juicy naturals are ap-earing on the surface of the water.

The matter of color is debatable. ven the question whether fish can istinguish delicate differences in lors is widely argued. But one gen-al observation may be made without ar of contradiction. The color of the tificial should approximate the color the natural.

If natural Light Cahills are emerging, e artificial should have tan wings and a cream-colored body, for example.

We have said that the nymph and wet fly move through the water in short, rather jerky stages.

The adult fly floats freely and gracefully on the surface.

So the artificial dry fly must float, like the natural, free of all drag and other interference from line or leader.

In conclusion, please remember this:

All species of fish except a few such as suckers and catfish feed on insects in their various stages of development!

So a fundamental knowledge of the science of insects is as valuable for the bass angler as for the trout angler.

Regulations Relative to Live Bait—1950

The Pennsylvania Fish Commission has set up the following rules and regulations on bait-fish and fish-bait:

SPECIAL NOTICE—Under new amendment to the fish law no fishing is permitted in any waters from midnight March 14th to 5:00 A.M., April 15th. This amendment prohibits taking bait-fish or fish-bait during that period, except in rivers, lakes, and ponds not stocked with trout.

Bait-fish or fish-bait taken from our inland waters CANNOT BE SOLD within the Commonwealth or transported outside the confines of the Commonwealth for sale. This ruling does not prevent a fisherman from taking his own bait from public waters, but under the law he cannot have more than thirty-five (35) bait-fish or thirty-five (35) fish-bait, or fifty (50) of the combined species unless purchased from a Commercial Dealer who operates under a license issued by the Commission, or from a dealer who has purchased them from a Commercial Hatchery.

Every minnow box anchored in a stream, pond, lake, or place of residence must have attached thereto the owner's name and address and fishing license number. If maintained by more than one person, it must be in sections and each section must have owner's name and address and license number.

Pennsylvania fishermen are also permitted to take bait on a fishing trip either within or without the State provided the possession limit is not exceeded and the bait are for his own use. If there is more than one fisherman, bait must be in separate containers or a divided minnow box or bucket.

SUNDAY FISHING FOR FISH-BAIT OR BAIT-FISH:

Under an amendment to the Sunday Fishing Law, bait-fish or fish-bait may be taken on Sunday with the same devices used on week-days, i.e., two rods and two lines with not more than three (3) hooks attached to each line; a dip-net or minnow seine not over four (4) feet square or four (4) feet in diameter; a minnow trap with not more than two (2) openings which shall not exceed one (1) inch in diameter. The rods, hooks, and lines must be under the immediate control of the persons using the same.

SPECIAL NOTICE

BAIT IMPORTED INTO PENNSYLVANIA:

No person or persons are permitted to bring bait-fish or fish-bait into Pennsylvania for resale without first securing a permit issued by the Pennsylvania Fish Commission, Harrisburg, Pennsylvania. In making a request for a permit, all persons must supply the Commission with the name and address of the person or dealer from whom bait-fish or fish-bait are to be purchased, species of bait they desire to transport, number, place of business where fish will be resold, etc. Dealers must keep a record of all fish or fish-bait purchased under their permit and copies of bill of sale to individual fishermen which must check with purchases made.

Fish For Sport, Not Meat

Another fishing season has just opened. From now until cold weather comes again, anglers of Pennsylvania will have the privilege of fishing for trout, bass, and panfish.

Nowhere else in the world are men so free to enjoy the outdoors.

In some countries men are slaves of the government, and any kind of recreation is out of the question.

In other lands, fishing rights are held by the privileged few. All good waters are privately owned.

But in this country—and more particularly in this state—all a man or woman needs to go fishing is the desire, the proper tackle, and a license that costs only a couple of dollars. And privately owned waters are no problem at all.

This fine, free sport of fishing can change, though.

We can't eat our cake and still have it. Or, it might be said, we can't kill our fish and still enjoy fishing for them.

There are not enough fish in the streams—even with modern creel limits and hatchery operations—for all of us to take our limit of fish every time we go to the stream or lake.

Every individual fisherman can help to make fishing better—if he will fish for sport instead of for meat.

Certainly, enjoy a meal of fresh caught fish caught once in a while.

But also enjoy the pleasure of catching a nice fish, handling it carefully, and then returning it unharmed to the water to be caught another day by yourself or some other sportsman.

We repeat—

In 1950 fish for sport, not for meat.

Editorial—The Lycoming Sportsman

Club Lays Plans for Picnic

The Beaver County Sportsmen's League has scheduled an outdoor picnic for August, at the Ambridge Firemen's Park. The date and events will be announced in the near future. It will be a family affair and the picnic committee is busy planning a complete program for men, women, and children.

Skish as a Park Activity

By CLARE BRYAN
Chairman, National Skish Board

EDITOR'S NOTE: *The writer of this artic the chairman of the National Skish Boa will be glad to answer inquiries on all phas of casting and the equipment necessa therefor. Mr. Bryan's address is 509 Wabash Ave., Chicago 5, Illinois.*

THERE are more than 20,000,000 fishermen in the United States. Each and every one seeks the great outdoors for relaxation and a fuller life. No other sport in America has as many active participants. From the barefoot boy with pin hook and worms to the President of the nation, all are equal on lake and stream, with a common thought.

The sport of fishing knows no profession, creed or color. It is one activity which appeals to the old and young alike. Just being out-of-doors, plus the anticipation of the catch, makes each trip not easily forgotten. Not all anglers are sport fishermen; neither do all fishermen have an opportunity to travel long distances in their quest for the thrill of landing our better game fishes. The great majority being less fortunate, must be content with poorer fishing near congested areas. It is here that much can be done. It is also here that we find the park systems of today.

SKISH FOR FISHERMEN

During recent years, a great number of civic minded sportsmen banded together to give the fishermen a recreational sport between fishing trips as a means of bridging that gap. This activity, known as SKISH, is a target casting sport for the angler, as SKEET is to the hunter. It is not only a great fill-in, but an aid toward making hobby fishermen as well. Hobbyists as you well know, are a contented lot as long as they are playing at their hobby. With this in mind, those sponsoring Skish are making an all-out effort to bring this sport to every city and hamlet in America in an effort to create hobbyists and cleaner living.

While not all fishermen are interested in target casting, a vast number are when they learn of the facilities furnished by many of our parks, and the services rendered by the many expert casters working closely with the parks in furthering this activity. This service which is so valuable to the hobby fisherman, has attracted nationwide attention among all fishermen interested in better casting. Good casting plays an important part in improving one's catch,—and who isn't interested in a better catch of our finny tribe?

Not all sport fishermen are in a position to spend months at their hobby. The majority have but a few weekends in addition to their two weeks' vacation. Therefore, thousands of these hobby fishermen have taken to the sport of target casting as second to real fishing. This increased interest in casting has meant the development of hundreds of clubs which did not exist a short time ago. The more fortunate clubs have found suitable facilities in our city parks for practice casting, while many others not so fortunate lack the knowledge of planning facilities for this activity. It is for this latter group that these words have been written.

NO EXPENSE NEEDED

Park executives who wish to add the sport of target casting to their activities need not delay action because they lack the necessary funds for an immense platform. Many casting groups are active today with neither pool nor platform, all casting being done on a lawn. While this is far from ideal in the minds of fishermen, it does serve the purpose for a limited time. However, if these conditions continue indefinitely, the enthusiasm for the sport will decline. Fishermen naturally like their casting on water because it simulates actual fishing. Therefore, park officials who organize lawn casting should bear in mind the placing of the activity in a lagoon or wading pool as soon as conditions permit.

WADING POOLS

Wading pools have been used successfully by many casting clubs. Whether round, square or oval, pools of sufficient size for casting should be no less than one hundred feet in length. Round pools one hundred or more feet in diameter make excellent casting pools, providing a walk circumvents the entire pool. This will perm casting with the wind, which is ve important if good casting is to be don The surface of the walk or platfor should be as near eighteen inches possible from the water. While th may vary a couple of inches eith way, it should be maintained with reason, otherwise it will affect the cas ing of visiting casters, especially du ing state, regional and national tourn ments. Shallow pools should have cement bottom. This will prevent wee growth during the peak of the castir season.

Mrs. Sylvia Smith of 254 W. Main St., Bloomsburg and the exceptionally fine brown trout which she caught from Fishing Creek in Columbia County. Mrs. Smith used a night crawler for bait and the trout measuring 22½" long weighed 3 lb. 1 oz.

CASTERS NEED SPACE

Wading pools in many parks are u suited for all forms of casting becau they are located in congested area While they will serve for accuracy ba casting, they are unsuited for fly cas ing unless there is sufficient clearan around the periphery. Pools having clearance of less than fifty feet wi make fly casting difficult and hazar ous. All casters should be warned break practice fly hooks off back barb. New pools should be planne for fly casting as well as bait castin because fly fishing is rapidly becomin the leading method of taking game fis

OCTAGONAL POOLS

Where no lagoon or lakes exist, step better than a wading pool is a octagonal cement pool about one hu dred and fifty feet in width. This po should also be circumvented by a wal no less than six feet wide. Pools of th type permit casting with the wind an with all casters on the same line. Th Buffalo, New York, casters are prou of their pool built in this manner. A the time of construction, the Buffal Anglers Club worked closely with th Buffalo park officials and were re warded with a very fine pool. In buil ing pools of cement, the bottom shoul drain slightly to the center. No mor drain than necessary should be pro vided because it will make it difficu to wade when setting out the target and while scoring the casting.

SMALL LAKES AND LAGOONS

Small lakes and lagoons are ideal fo permanent casting facilities becaus sufficient space can be had for all type of casting under all conditions. Whe using lakes and lagoons, it is best t extend a casting platform into th water. The ideal platform being bui

the form of a cross, with one arm eing used as an entrance from shore. Vith casting facilities of this type, all asting can be done parallel with the hore. That portion of the platform exnding from shore should be at a right ngle to the prevailing wind. This will ermit casting crosswise of the main ction and with the wind. The other ction forming the cross is used for d racks, spectators and the judges hen scoring games.

ZE OF PLATFORMS

When building the cross type platrm the size will depend entirely upon e number of casters using it. The ost outstanding platform of this type located in Lincoln Park, Chicago, linois. The main section extending om shore is one hundred and twentyve feet long with a width of twenty et. The north and south section hich completes the cross is located in e center of the main section and exnds eighty feet from each side. This articular platform is built of reinrced concrete twelve inches thick d with a skirt six inches deep around e entire edge. The entire structure is pported on piling extending forty et into the ground. While it may seem xtra heavy, it must support exceptionly large crowds.

ATIONAL TOURNAMENTS

The Chicago Park District and eight asting clubs cooperatively sponsored e first Annual All Skish National ournament which was held August 6-27-28, 1949. This tournament drew large number of casters from Coast Coast, and was held on the above entioned platform in Lincoln Park. he choice of this park was made beause facilities are ample for a tournaent of this size. All park executives ishing to attract national attention mong fishermen following this sport hould fully consider the capabilities f their casting facilities before building. Inasmuch as this sport is growing apidly, the platform just mentioned ill be none too large for general use this area. Many other parks in the hicago Park District are also quipped with outstanding facilities r the target casters. In fact, the hicago Park District has more casting lubs than any other city in America.

ORTLAND, OREGON

The casting facilities at Portland, regon, were built with national castng tournaments in mind. Therefore, ll details were considered before the rst spade was turned. Their pool cated on reclaimed land is in a beauiful setting. The pool proper is four undred feet square and with a platorm extending from one side to the enter where it terminates in a "T." rovisions were made for casting from any point on the platform and from any part of the shore line, thus giving them one of the most outstanding casting pools in America. The city of Portland is well equipped to handle the largest national casting tournament ever held.

LONG BEACH, CALIFORNIA

As an example of rebuilding, the fishermen of Long Beach, California, were awarded a national casting tournament for 1947. The casting pool used prior to that time was a cement pool about one hundred twenty-five feet in diameter. In order to handle the 1947 National, it was necessary to rebuild the pool into an oval, giving it more length. While the pool was used for many years, it was far from ideal until the change was made. This resulted in a much happier group of casters and increased activities. They are now equipped for any eventuality.

SAN FRANCISCO, CALIFORNIA

In the Golden Gate Park of San Francisco, the fishermen have for their use one of the most outstanding pools ever built for the sport of casting. Here the pool, built entirely of cement, is about four hundred feet square and with two crosswalks built through the pool, thus making three distinct pools. It is, without a doubt, one to be proud of by every caster using it.

DISTANCE POOLS

Casting pools built for accuracy casting need not be as large as those built to include all casting games. Distance casting takes considerable space. Therefore, this phase of the spot cannot be played in one hundred foot pools. If space permits, it is well to plan the location of the platform permitting a cast on water of two hundred and fifty feet or more. To get this distance with the wind, it would necessitate extending a platform into the center of a pool having a length of five hundred feet or more. Facilities planned along these lines will be ample for all tournaments. The size of this pool should not discourage park officials from adding bait and fly casting to their activities merely because their pools are too small for distance casting. As I have mentioned before, casting can be done on a lawn or in small pools from shore, thus requiring no expenditures whatsoever. The large pool is merely mentioned to show what has been done in some of our larger cities.

Jack Cardelo and the 30" 7½ lb. northern pike which he caught last July. Jack hails from Pittsburgh.

LOCKER FACILITIES

All parks planning facilities for casting should provide a locker for targets and other equipment not carried by the casters. Quite often space can be provided in a nearby field house for this equipment. In many instances the parks have an equipment locker built into the casting platform. Lockers of this type should be about ten feet long, four feet wide and three feet deep. The top should be sloped to prevent rain reaching the storage space.

CLUBHOUSES

In practically all of the large cities, the parks have provided the casters with a clubhouse for their particular use or have given them space in one of the nearby fieldhouses. Many are equipped with lockers of sufficient height for the storage of six foot rods, reels, lines and other gear used by those following this sport. These buildings are also used for meetings and social activities during the winter months when weather doesn't permit outdoor casting. While clubhouses are not a must for this sport, it does keep these hobby fishermen together tying flies, telling tall tales and enjoying themselves in general. Movies of fishing trips play an important part in keeping this group happy during the long winter months.

TARGETS

The standard target used by all casting clubs is a ring thirty inches outside diameter made from one and three-quarter inch diameter aluminum tubing, rolled to a perfect circle and welded with a special welding rod made for use with aluminum. However, some clubs have made their targets to these same dimensions from wood, using a good waterproof glue, while others have made discs thirty inches in diameter with a thickness of about one and one-half inches. Waterproof glue should also be used with wood discs. Those wishing to obtain their targets at less expense have used old bicycle tires as a substitute. Five targets are used, and are placed at various distances to conform to the rules of the games. The colors of the five targets should be red, white, blue,

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Pine Creek Bass Are Numerous

By William Boyd

IT'S a safe bet that every fisherman has his own favorite stream and riffle. Further, he'll probably drag you along with him to his chosen spot unless you have your own favorite fishing place and can talk faster and more convincingly than he.

Take the case of Ralph. He had been telling me all spring about that somewhat isolated fishing place in Pine Creek that he had discovered the season before. To hear him, you'd gather bass were so numerous he had to keep the lid of his minnow bucket closed to prevent the hungry black bass from jumping out of the creek and stealing minnows when his back was turned.

He was persuasive all right, sufficiently so to induce me to accompany him to this bass-infested stretch of water on July Fourth.

For the information of those who may not know just where Pine Creek is, perhaps I'd better locate it. Pine Creek is a good-sized stream, larger in many instances than waterways in other states of the East graced with the designation of rivers.

It flows southward through north-central Pennsylvania to empty into the West Branch of the Susquehanna River a few miles southwest of the Borough of Jersey Shore. For much of its course it tumbles through a narrow ravine with mountains on both sides rising to a height of as much as 2,000 feet above tide.

The scenery of the Pine Creek gorge is exceedingly bold and picturesque, and before the advent of the railroad there was no wilder place in the Commonwealth. At times Pine Creek, at present as in pioneer days, becomes a mighty torrent carrying off an immense volume of water from the extensive mountain regions which it drains.

It has numerous tributaries, some of them streams of considerable size and virtually all of them desirable trout waters. The largest of these is Little Pine Creek, in which the state is at present building a huge dam to provide a lake for flood control and recreational purposes. This dam is located about three and a half miles above Waterville, where Little Pine joins main Pine Creek.

Other tributaries are Callahan's Run, Tomb's Run, Slate Run, Miller's Run, Gambles' Run, and Cedar Run. Slate and Cedar Runs are streams of some importance and were utilized for conveying logs in the lumbering era. At present Slate Run is an exceedingly popular trout stream with special restrictions on legal-sized fish and fishing tackle.

Little Pine has been a popular trout stream, but there are those who maintain the creation of the recreational lake will destroy its attractiveness as a trout stream from the dam to its mouth. Many of its tributaries—Callahan's Run, English Run, Lick Run, Bear Run, Block House Fork, Wolf Run, Rock Run, Crooked Creek, Otter Run, Buckeye Branch, Pine Run, Bonnell Run, Four Mile Run, and Hews Run—provide good brook trout fishing.

Now to get back to Ralph and that July Fourth of a few years ago. We got away to an early start and encountered little traffic as we traveled through Jersey Shore toward Lock Haven. We continued along at a good clip after turning north off the Jersey Shore-Lock Haven highway to proceed along the east side of Pine Creek.

It was less than 15 minutes until Ralph turned off the macadam highway onto a dirt drive that had once been part of the main Pine Creek road. Down this dusty lane we went, thriving blackberry bushes scraping the sides of the car at places.

When we came to a high wire fence paralleling the railroad tracks, Ralph stopped the car, got out, and opened a wide gate fastened with a heavy chain. He drove across the railroad tracks while I re-fastened the gate which, he explained, was necessary to keep a farmer's cattle from straying onto the tracks.

We drove up along the railroa tracks over a cinder roadbed that ha once accommodated a third track an parked between the railroad and th creek bank after going about a quarte of a mile.

"There you are, fellow!" Ralph ex claimed, and I looked with misgiving at the stretch of creek below us, fo there wasn't a place so deep the botton wasn't visible.

"They are in there, all right," as sured Ralph, probably noting my du bious expression.

There was a well-defined path lead ing from the railroad right-of-way t the creek's edge, obviously worn ther by the farmer whose isolated place wa almost directly opposite from wher we had parked our car. A boat with long pole lying across the seats wa fastened to a big rock with a heav chain, indicating the farmer, or at leas a member of his household, was some where on our side of the creek.

The bass hole wasn't more than 20 yards long. It extended along the eas side of the stream, and above an below it was shallow, rapid water. could see, too, that the water was shal low along the opposite shore.

There was a big rock protrudin from the water at the upper end of th hole, but we placed our lunch and ca of helgramites among the high weed of the embankment for protection fron the hot sun already beating down o

One of Pine Creek's popular fishing places.

rom above the slope leading to the erville highway.

"I'm going to try a stone cattie," said Ralph, and fished a lively one from our "bait" bucket. He waded straight out until the water was almost to his ears, pits and then began moving slowly down stream, fishing toward shore as he went.

The lower end of the hole looked good to me so I waded out to a submerged flat rock where I could stand in water up to my waist. I put a "jack" on my hook, reasoning we would use different bait and perhaps learn which was the greater attraction for the bass that holiday morning.

After making my first cast I looked upstream toward Ralph and learned he already had a "run." He was pulling line from his automatic reel at a rapid rate so I concluded the bass which had his "cattie" in its mouth was moving rapidly through the water.

The bass was coming in my direction, and Ralph was stripping off so much line I began to think I might see the fish before it stopped its run. As this thought passed through my mind Ralph set the hook and began reeling line. The bass broke water once a few seconds after Ralph hooked it and I could see it was a good-sized fish.

In a few minutes my companion whistled to attract my attention and held up the bass, a 13-inch specimen, broad and heavy and fighting mad.

"I told you they were in here, Boyd," said my friend, and I acknowledged that perhaps my first impression of his favorite fishing spot was erroneous.

All the while I had been retrieving my helgramite slowly for the double purpose of preventing it from fastening itself to a stone on the bottom and to attract bass which might be in the vicinity of the place where my cast had dropped the bait.

Then "bang!" I, too, had fastened into one! As is my practice when using helgramites as bait, I permitted my fish to swim only six or eight feet before jerking the tip of my rod sharply in the opposite direction to which the bass was going.

I had adopted this method of fishing "jacks" some years ago in the interest of fish conservation upon learning that I could hook the bass through the lip eight times out of ten and thus not hurt him seriously if he proved too small to interest me. I had had the experience of giving a fish too much line when I had a "jack" on my hook and when I got him in found he had the bait so deep in his digestive tract it was a case of cutting the leader or killing the fish if he proved too small to keep.

However, this time I could tell by the tug on my line I had a legal-sized bass, and so he proved when I led him to the shore and beached him. He was a good 12 inches, so I put him on a stringer and returned him to his native habitat, albeit securely tied to a stone at the water's edge.

That's the way it went all morning. First Ralph would tie into a bass and then I'd have a run. However, Ralph continued to bait with stone catties while I used "jacks," and he seldom caught a bass less than nine inches long while I too frequently caught those which were less than legal size.

Little Pine Creek is a good-sized stream.

"I'll take stone catties any time," argued Ralph. "First, they'll get you larger fish and second there's more sport in fishing them, for you must let your bass complete his run before you set the hook.

"I've also learned something else," continued my fishing companion. "Often I have failed when I have attempted to set the hook and I have adopted the practice of retrieving the 'cattie' only a short distance and that slowly.

"More often than not, the hungry bass which has struck and from whose mouth I pulled the bait will pursue it if given the opportunity and will strike again. Thus one has a second chance to hook him. Try this the next time you are fishing 'catties' and see if it doesn't work out for you, too."

As we fished, a heavy storm blew up, dark clouds obscuring the sun. Neither Ralph nor I cared greatly if it did storm, for we already were as wet as it was possible to get as a result of our wading practice. But when that storm struck it was a corker. The rain came literally in sheets, the lightning was vivid, and the thunder reverberated from the mountainside in an ominous manner.

Within a half hour there was a marked and unusual change in the appearance of the creek. The water for perhaps 25 or 30 feet from the shore became yellow with mud, while in the center of the stream it continued as clear as crystal.

Both Ralph and I waded out beyond the muddied area and continued our fishing with satisfactory results. In

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This angler prefers to do his Pine Creek bass fishing from a comfortable seat in a canoe.

What Colors Can a Fish See?

By Gene Burns

Mr. Burns has been a University profes he was a war correspondent for the As ciated Press during the last war, is cons ered an authority on Polynesian civilizai and the author of books and articles on mo subjects. An ardent angler, he has done m research on fish vision and is the origina of a new theory as to whether a fish can . color and if so how, to what extent and wh

EVER since Dame Berners wrote her treatise on fishing, a hot controversey has raged among fishermen as to whether fish can see color. Some expert fishermen say that they can take fish on red, blue, green or yellow flies at will. They back up this argument by saying: "What under the sun looks like a Royal Coachman that has taken more fish in America than any other fly?" An equally large group, and equally vehemently insists that trout can not only distinguish color but they can also distinguish shades of color. "Why, I've merely changed the shade of color of a fly, and put the trout down, time and again."

Because of this controversy, which has been pretty evenly divided, I felt that there must be justification in both points of view: that fish can see color clearly; and that fish cannot see color. Sounds like nonsense, but with this new Firelacquer, which is activated, I pretty well proved the point.

As every fishing editor knows, the Germans have conducted a lot of careful research on fish vision feeding trout on colored tiles and building up conditioned responses so that when the fish was moved out of his tank into another he would hurry to his particular color for his food. In this research, it was found that the fish were particularily alert in distinguishing the colors which ranged toward the brilliant hues. Toward the dark colors, the fish did not react as well.

This pretty well convinced me that the fish were being tested on color within the human range of vision and it was my contention that the fish could see farther into the ultra-violet colors which did not register in our eyes.

First, I studied the things trout fed on naturally and I found that practically all of this material—nymphs, worms, insects, fish eggs, and fish scales gave off a certain amount of ultraviolet coloration.

With this in mind, I studied some of the popular flies—such as the Royal Coachman—which, as has been said before, looks to the human eye like nothing under God's heaven. Under an ultraviolet lamp, I found that the Peacock herl flouresced slightly. The same with bucktail, junglecock, barred rock. And as any trout angler can tell you, put together these combinations—peacock herl, bucktail, junglecock and you have a good trout fly which will kill fish, day in and day out. That was an exciting find.

Then the war came along and in my war work, I went aboard the carrier, USS Enterprise. There I saw some exceedingly bright signal flags. As a matter of fact, they were the most brilliant flags I had ever seen. Following a hunch, I put them under an ultraviolet lamp and they glowed as though on fire, from within. Again, in the Aleutians, everyone was assigned a blue shoulder patch. This, too, glowed. And in the fog identified our troops. Again, in Africa, on returning from a 'round-the-world mission, I saw panels of this material used to identify our troops on a very fluid front. The American pilots could spot the panels two miles away, and therefore knew where our lines were.

After the war, I located the material at Gantner & Mattern's, San Francisco, the bathing suit manufacturers. John O. Gantner, Jr., the man who put the American male into a trunk with his Wikies, had already had some so-called Fireflies tied up. He gave me some of the Gantron Firefibre. I could not wait for the fishing season to open. I got special permission from the game commission of California to conduct some experiments with hooks cut off just in front of the bend. Then, when the trout season opened, I found th the trout hit this new material ve viciously. In several instances I fou that the trout would hit the flies hard that the hook would have to removed from deep in their thro This had never happened to me more than 20 years of dry fly fishir And so I knew that I was on to son thing very important. And big.

Here President W. E. Troeger of the Blawnox Sportsmen's Club proudly displays the 20" 4 lb. small mouth bass caught on a yellow River Runt at the Tionesta gravel bar on the Allegheny River last season.

Mr. Gantner allowed me to se more than 200—about 210 samples, expert fishermen throughout t world. Some were in South Ameri Africa, England, Scotland, Swede France, Norway, Iceland, New Ze land, India, Canada, Mexico, and course throughout the United Stat

Of these, 153 replied, giving me ve precise answers. One hundred a fifty said that the material was a d cided advance; that, under the prop conditions, it would take fish whe the old materials would not take fis that the fly tied with Gantron Fir fibre was much easier to follow; th it would float better (being wate proof). Two said that they could s no difference whatsoever betwee Gantron Firefibre and the new mat rials. One, a Scot, said that he f the brilliant UV-activated material a tually frightened the fish away.

But much more important, almo every fisherman said (there were fi exceptions) that the Gantron Firefib worked best during heavy overca early morning, and evening fishir In short during the shadow hours the day.

Now, this was significant, but couldn't make heads or tails of it. Ju why in the devil should this new mat rial, which put out the same U-V a tivation that many insects put out th fish feed on, be no more effective th the ordinary material during brig daylight. In experimenting I fou this to be true, too. But why?

The answer came very unexpectedl And of all places in New York City.

Two years ago, I was visiting wi fisherman Harry Miller. His offi was darkened, almost like the inside a theatre. I thought he was trying simulate bar-like conditions. Fishe men are odd that way sometimes. Tl lunch hour approached. "Harry, le feed the old man inside?" I propose He accepted. But before he stepped o

of his room, he put on a very heavy pair of dark glasses which covered about one third of his face. "Are you ashamed to be seen with me?" I asked. "No, Gene," he said, "I have a very rare eye affliction. My pupil will not contract. And when I step into the bright daylight, I catch holy hell. My eyes feel as though they will kill me."

Right there was my answer.

"Can you see color under these conditions?" I asked.

"Not unless I keep these heavy glasses on," said Harry, "and then only if I let my eyes get accustomed to the glare a little while. Why, you know what it is when you look directly into the sun."

As for the fish, I knew that they have a very large eye and their pupil is fixed—just like Harry Miller's except that the fish has a very much larger pupil and it will not contract at all.

For the next twelve months, I tried to test out this theory and I found some very interesting results.

I found that if I presented a fly to the fish in bright daylight, and if the fish were in daylight, he would take a yellow, black, red, green or blue fly without discrimination. Apparently, he saw only a silhouette. The size of the fly and the pattern it cast made the difference. Certainly not the color.

And there is where the angler who says that the fish cannot see color is right: in bright daylight, if the fish's eye is in sunlight, he cannot distinguish color.

But, I found too, that the fish can distinguish color if he is in the shade and looks out from the shade into the light. Much as we can see when we are sitting in a darkened room into a bright area. As long as our eye is shaded.

Asking plug fishermen to experiment along this line, I found that they confirmed my statements. The bass, for example, would be laying in the shadows and among the weeds. In the shade, when a lure was cast, he would hit it.

Study the stream behavior of fish, it is pretty well recognized that trout will remain behind rocks, in shadow, or along ledges. For a long time, the popular belief was that the trout were hiding out from natural enemies. Actually, most of the fishes' enemies work these very areas. While a forest ranger in the Olympics, hours at a time, day after day, I have lain motionless on a log across a river and watched the fishes' natural enemies stealthily slip into the water, cruise into these "protected" areas and seek out their prey.

Anyone who has done much trout fishing, knows that as soon as the shadows fall the fish will move out into the shallow water, near banks, into the quiet water to feed. This, in contrast to daytime feeding, when the trout will seek the deep places or if he must feed —when hunger triumphs, he goes into the broken water riffles where comparatively little light enters the water.

Incidentally, in quiet water, about five to eight percent of the sun's rays —including the ultraviolet rays enters the water. Of these, the ultraviolet rays keep boring down, deep down. In extreme depths of three thousand feet, the water is absolutely black to human eyes, but yet, the ultraviolet ray is present, and, I believe, from my still incomplete experiments, that the fish see in part in this wave length.

Among some very unusual work done in the northwest, I observed Salmon. These fish tend to roll early in the morning and toward evening. During the bright intense hours of the day, they seem to head down. They will come up, briefly, during bright daylight to thrash among schools of candlefish, say. Then they wound as many as they can with their tails, and drop down and pick up these cripples. But the salmon, too, avoids the bright daylight. In this connection, salmon were taken with baits coated with Firelacquer, which is activated by ultraviolet to depths of 650 feet.

With the experimenting I have done, which is admittedly inconclusive because I have been working with these ultraviolet-activated materials for only three years, I have found indications of the following:

1. That fish see in a color range which is between that of a bee and a human, with overlapping both ways.
2. That most of the insects fish, feed on, give off colors in these wavelengths.
3. That fish, in bright daylight, and with their eyes in bright light can see no color.
4. That fish can distinguish colors within the human range, in the bright colors, very distinctly during the "shadow" hours of the day.

This summer I am going to experiment with fish vision by moonlight. It remains that there is a little ultraviolet activation during these hours.

Most Fishhooks Are Imported

Fishhooks were made in several countries before the war, but the majority of the fly hooks sold in this country came from Norway and England. There is no standard terminology by means of which all hooks can be described to indicate length of shank, width of bend, length of barb, and type of point. Although the same numbering system may be used, nearly all foreign manufacturers have variations in their lengths of shank, shape and quality of hook. There have been many attempts to standardize the length of shank, width of bend, diameter of wire, and other features, but there have been few concrete results. During the last few years, however, there has been some success in getting established in this country a standard for fly hooks. This was proposed by the National Association of Angling and Casting Clubs. The association proposed that fly-hook size be governed by length of shank, exclusive of the eye; that the gap between the point and shank be one-half the length of the straight shank; that the diameter of the eye be the same as the diameter of the wire, and that the standards be applicable to every bend and style of hook.

Warden Chrisman Passes

Robert J. Chrisman, Pennsylvania's regular Fish Warden for McKean County, quietly passed away in his sleep at his home in Kushequa on Friday Morning, April 14th.

Bob, as he was known to all, was held in high esteem by his host of friends throughout the northern tier County and his death came as a severe shock to all. The Pennsylvania Angler bows its head in reverence to a fine Warden.

Interest and Enthusiasm Pays Off

The Olean (New York) Rod and Gun Club, organized in 1922, is an outfit that really gets things done. Here's what the club managed to do in one year:

Increased its membership from 14 to 345; obtained 116 acres of property; cut and sawed over 5,000 feet of lumber for a club house; excavated a basement for the club house; erected and put to use a rifle range; dug a pond which is full of water and ready for fish; completed a parking area; sponsored and organized a junior club for boys 15-18.

Says Fred J. Carver, vice president: "Keep the interest and enthusiasm high and you will be successful."

Oops! So Sorry!

By Albert G. Shimmel

NO ONE will dispute the fact that the streams, lakes and rivers containing game fish are woefully overcrowded. This is essentially true near large centers of population. Gone are the days when with a companion you could cover two or three miles of your favorite stream with the assurance of finding it undisturbed. It is the exceptional day that you do not meet others even on remote mountain streams where a score of years ago an angler was a rarity. This conjection brings up a number of problems that require a solution if angling is to continue to be the "Gentle Art" of father Izaak Walton.

It is fortunate that most anglers are good sportsmen and gentlemen at heart. Perhaps I should also include ladies of which there are an increasing number. A few individuals have probably left their courtesy at home or believe that good manners are unimportant in the out of doors. On these few the ideals of sportsmanship and fairness are lost. They are not in tune with the true spirit of nature. Each year a few of these untaught specimens cause an unexpected amount of criticism to be brought against sportsmen as a group.

A case where retribution came swiftly under observation the first day of trout season a few years ago.

The pasture stretch of Spring Creek is not my idea of a perfect location for a season opener. An elderly friend who had much to do with my early training as an angler and who is no longer capable of adventuring the wild mountain torrents suggested we open the season together for old memories sake. Every thing was perfect except for the fact that approximately a thousand other anglers crowded the two mile strip of water we had chosen for the scene of operations. With few exceptions they were a quiet well mannered group, enjoying the warm day in fellowship and with angling as a secondary consideration. In the best spots standing room was at a premium and wading out of the question. At noon the place took on the appearance of a gigantic picnic grounds, with family groups including children enjoying their food and at the same time keeping an eye on the rods set along the stream.

Afternoon brought a brief light shower and the crowd blossomed out in all manner and color of wet weather gear. We had taken a brace each of trout in the morning and were content to talk to acquaintances in the crowd and spend our time in observation.

During the shower as we were sitting in the car an expensive cream colored roadster parked just a few yards in front of us. From it there alighted a lady dressed in the latest fashion of outdoor clothing. She assembled an expensive rod and donned a clear plastic raincoat. Rather disdainfully she elbowed a place among those along the bank and proceeded to endanger her neighbors by casting a heavy streamer. Her companion a portly middle aged man, his green plastic rain cape covering a full array of equipment, a cigar stuck out of his mouth at an aggressive angle, pushed through the crowd and with a belligerant air waded to the center of the stream. My friend watched this un-

courteous procedure and being a cleryman tempered his remarks with becoming restraint. We almost hoped that someone would accidently hook this specimen of over stuffed humanity. He made a few casts then being dissatisfied with his position proceeded to work his way downstream. The stream at this point has stratas of limestone crossing at right angles and is a trifle tricky even for an experienced wader. Stepping out from the solid footing he hung suspended on one foot for a time then betrayed by the slippery rocks his other boot left the bottom and he slid into the pool below with only his head and cigar above, and his green rain cape ballooning the water. He emerged with more dignity than grace and made for the bank. His companion joined him, the wheels of the convertible spun in the wet grass, then speedily departed. The anglers that lined the bank were admirable in their gravity. The exception was a grand motherly looking lady seated on a camp stool near the base of a large willow. Her stout body rocked with such spasms of surpressed laughter as to threaten the collapse of her support. My reverend friend his face glowing turned to me and made this comment, "Pride goeth before a fall," and great was his fall.

There are certain portions of Spring Creek controlled by a state institution and open to public fishing only by courtesy of its officials. A set of regulations are posted at frequent intervals on the property and anglers are requested to read and obey them.

One of these regulations prohibits the use of alcoholic beverages on the property, another requests that garbage and paper be deposited in receptacles provided at various points along the stream. In spite of these appeals empty beer cans and liquor bottles are often found floating on the stream or sunken in the slow water, lunch papers and uneaten food litter many of the parking places. The same persons who so flagrantly disregard the rules would be the first to be heard in protest if this piece of water were closed. Who has a solution to this problem?

A friend of mine who is an expert angler and close observer of nature declared that the fly hatches on one of his pet streams were becoming scarcer each year. He has an angling note book that goes back more than a score of years and contends that while each hatch appears at the proper time it numbers fewer individual insects. He believes that most of the trouble is caused by fishermen gathering live bait from the stream bed and thereby not only reducing the capacity of the stream for carrying trout but wasting much of the bait taken. We visited the stream during the annual "Shad Fly" hatch and found it in fair abundance. My friend produced his record book and read to me the entry dated eighteen years previous. From the reading I gathered that the hatch had been so abundant that an angler on one side of the stream could barely identify another fishing from the opposite bank less than twenty yards away.

To further prove his point my friend led me to a shallow rocky portion of the stream and pointed out the fact that practically every stone that was moveable for almost three hundred yards had been moved, turned and scoured in the effort of gathering bait. How many thousands of nymphs had been destroyed we could only guess. Along the bank we discovered a pint jar containing approximately two dozen helgramites that had been discarded and left to die. My friend grew rather

quatious in his denunciation of the person who had been so lazy as to not remove the jar cover and return them to the stream when he had finished his fishing.

A Doctor friend of mine never goes fishing without having as his guests a boy or two. We were loafing away the afternoon in the shade of the willows keeping an eye on Doc's latest pupil, a sandy haired freckled youngster who worked the pool industriously with a streamer. He made up in sheer energy what he lacked in skill. At intervals a trout of about a pound in weight would swirl vigorously at the streamer and increase the boy's enthusiasm to the near bursting point.

As we watched an adult angler approached and seeing the swirl proceeded to move in on the already occupied territory. The boy's face colored with the temper of his Irish American ancestors. The heavy streamer fell a few feet in front of the intruder as if in warning. The retrieve was a trifle hurried as the ranger shuffled a step or two ahead unmindful of the danger signals in the boy's face. Again the streamer rolled out across the stream and swept down coming in contact with the booted leg. Whether the force of the current of the rod set the hook I cannot be sure. The stranger gave a surprised grunt and reached down to extract the hook. The procedure required some time and effort before the hook came free, as he dropped the fly into the current and moved down stream to make the needed repairs on his leaky foot gear. I heard the boy say "Oops' So Sorry." Doc's face was set in noncommital lines but his body shook with suppressed merriment.

Chet had discovered the den of a large trout early in the season. A grass crowned log wedged between the bank and a shoulder of rock just below the roadway, with patches of floating foam marked the spot perfectly. Hope that he could be taken in a floater brought us to the pool in late afternoon at the beginning of the Hard Fly Hatch. A careful study indicated a careful approach through the still flat below to gain the only possible position for a dragless float over the lie. Chet was a full half hour working into proper position and probably another quarter hour before the old fellow began to feed. Everything appeared perfect for the trial when one of those Drug Store Cowboy characters came down the far side of the stream and spotting the rise waded down with all the grace and silence of a bull elephant. Without a by-your-leave he put the trout down and waded right through the lie on his way to the next pool. The disturbance had hardly died down when another of the same tribe duplicated the maneuver. Finally a third repeated the same procedure. My friend kept his place until darkness closed the day, but our trout had lost all interest in surface feeding. I still find much to marvel at in my friend's forebearance. My patience would have been exhausted long before darkness came.

There are times along the stream when I feel like committing mayhem, then standing over my victim and quoting Doc's small friend. "Oops! Sorry!"

Hard Work Saves Loyalsock From Pollution

Because of fast, hard work on the part of seven members of the Consolidated Sportsmen, the upper reaches of Loyalsock Creek were saved recently from a destructive pollution by culm from an abandoned coal mine.

And that same day trout from the State Fish Commission were stocked for the first time in years in the eight-mile area of the creek where only last year the state department of mines completed the sealing of two mine tunnels that had been discharging acid water into the stream.

The scene of the new pollution was barely a quarter mile downstream from the area in which the trout were stocked.

Carl A. Bidelspacher, state fish warden, was enroute to the area to supervise the stocking of 2,000 brown trout when he noticed heavy discoloration of water being discharged by Scar Run into the Loyalsock. He made an immediate investigation and discovered that mine waste was being washed down the run.

News of the discovery was sent to Williamsport, and the men rushed to the scene with picks and shovels.

They discovered that water from melting snow had flooded the settling basin of an abandoned mine at the head of Scar Run. The water overflowed from the basin and began washing a huge culm bank into the run.

The sportsmen worked until midnight that night digging ditches through which the overflow from the basin was diverted, and the pollution stopped. State authorities were notified immediately, and Richard B. Maze, secretary of mines, ordered a crew of workmen to the scene. They moved in with a bulldozer and completed the work begun by the sportsmen.

The seven members of the Consolidated Sporstmen who halted the pollution included, in addition to Warden Bidelspacher, James F. G. Sheffer, John H. Bender, William Corson, Paul Corson, Russell Woolever, and Arthur Bastian.

Stocking of the 8-mile area reclaimed of the Loyalsock was not interrupted because the area to which the fish were consigned lies about a quarter mile upstream from the mouth of Scar Run.

The sportsmen on the scene estimated that about 150 tons of culm had washed into the Loyalsock. They hoped, however, that because the stream was high, much of the culm would be carried downstream without doing any serious damage to fish life.

State engineers estimated that if the sportsmen had not acted promptly, at least a thousand tons of culm would have entered the stream and would have destroyed all fish life in its path as it moved downstream toward the river.

The state department of mines began an immediate official investigation of the incident.

Mr. Sheffer, who first received word of the pollution and who recruited the other sportsmen to join him in the work, said the case should be taken as a warning that sportsmen must be vigilant at all times against stream pollution.

He said that even in areas where projects have been completed to prevent pollution it is planned to keep a constant check on stream conditions.

Mr. Sheffer also said that the prompt willingness of the other sportsmen to accompany him to the scene and go to work on the job was a demonstration of the determination of officers and members of the Consolidated Sportsmen to do all in their power in the interest of clean streams.

Groups Goal is 12,000 Members

The 1950 membership campaign of the Consolidated Sportsmen of Lycoming County is in full swing—with a goal of at least 12,000 senior and junior members for the current year. The drive is under the supervision of William R. Waldeisen, and he is being assisted by a large corps of workers organized in teams. An effort is being made to finish the campaign within the next month or two.

First 1950 membership, incidentally, was sold to Clarence B. Mumma, a resident of the state of Utah. He read the story which appeared recently in the magazine *Recreation* on the Memorial Grounds.

There are two principal classes of membership. Men and women older than 18 years are classified as senior members, and the fee is $1. Boys and girls between the ages of 14 and 18 are classified as junior members and must pay a fee of 50 cents each for a membership card.

An effort is being made to contact every resident of Lycoming County to extend an invitation to membership in the organization.

Keeping Fish Alive

As long as fish are alive they may be kept in the creek, tied to a root or slung over the side of a boat until the angler is done for the day. They should be checked often, however, and dead ones cleaned immediately or at least gutted and placed in dampened burlap, watercress or, if to be transported any distance, chipped ice. They should not be allowed to lie in the water from melting ice, or they will become tasteless.

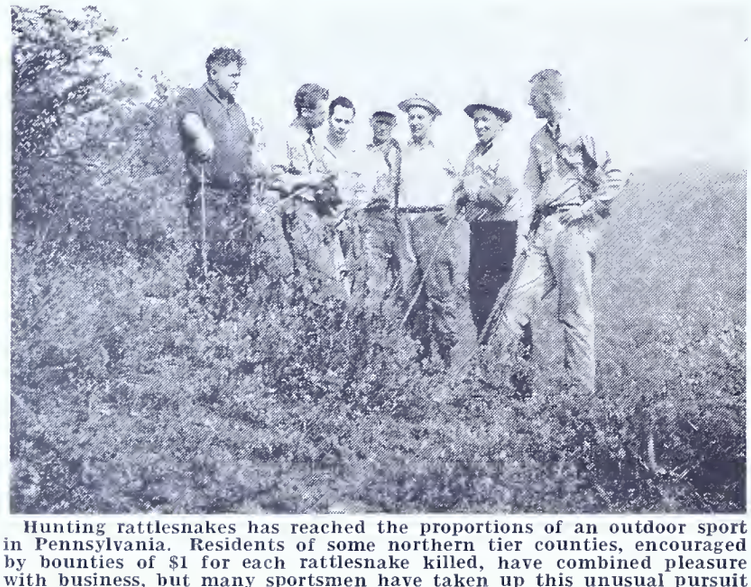
A good casting reel is built with the same precision as a watch and deserves the same care and treatment.

PENNSYLVANIA REPTILES & AMPHIBIANS

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

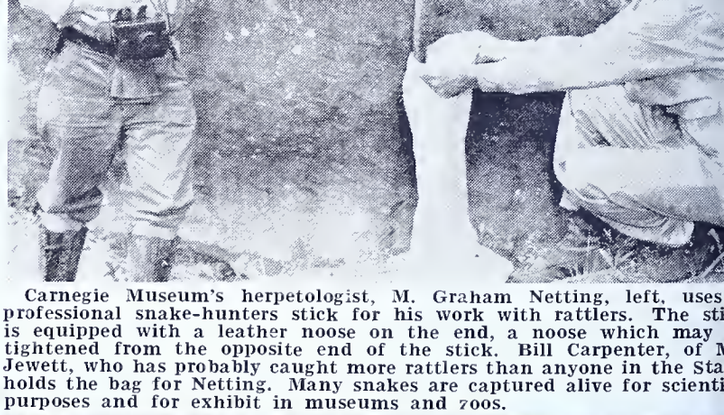
No. 15 . . . Hunting Rattlesnakes



Hunting rattlesnakes has reached the proportions of an outdoor sport in Pennsylvania. Residents of some northern tier counties, encouraged by bounties of $1 for each rattlesnake killed, have combined pleasure with business, but many sportsmen have taken up this unusual pursuit simply as an outdoor sport. In the photo above, M. Graham Netting, editor of this picture story series, shows a freshly-killed rattler to a group of snake hunters in McKean County.

Snake hunters find "den areas" the best hunting grounds for rattle Rattlesnakes hibernate in rocky outcrops in mountainous country. Th emerge from hibernation in May and they return in September. Duri those periods, concentrations are common and great numbers are som times taken by hunters. Art Hadley, of Mt. Jewett, shown above, pul a big yellow rattler from under a rock in a den area on Wolfe Mountai A hooked stick is Hadley's simple method of capturing the reptiles.

City sportsmen are finding rattlesnake hunting an exciting and interesting sport. Elmer Cheuvront, left, and Steve Harwig, two Pittsburgh district outdoorsmen are enthusiastic hunters and spend many summer week-ends in pursuit of this sport. In the photo above, the men team up on a rattlesnake . . . Cheuvront pinning it to the ground with a stick made especially for the purpose while Harwig reaches for the reptile with long-handled tongs.



Carnegie Museum's herpetologist, M. Graham Netting, left, uses professional snake-hunters stick for his work with rattlers. The sti is equipped with a leather noose on the end, a noose which may tightened from the opposite end of the stick. Bill Carpenter, of M Jewett, who has probably caught more rattlers than anyone in the Sta holds the bag for Netting. Many snakes are captured alive for scienti purposes and for exhibit in museums and zoos.

Long-handled tongs are considered by many rattlesnake hunters as the best instrument for taking the snakes alive. Pressure on the tongs can be made so great that it is practically impossible for the reptile to escape, and the handles are made long enough to keep the hunter at a safe distance from his prey. A novice on his first snake hunt would do well to go with veterans hunters until the safest and most practical methods are learned well. In rattlesnake hunting, the wrong move may be fatal.

This is a trick for the veteran of many snake hunters, and is advised for anyone except an expert. Elmer Cheuvront has captu hundreds of rattlesnakes alive and has long since learned to resp these dangerous reptiles. Much of the danger in snake hunting be eliminated by proper clothing, proper equipment and a thorou respect for the venomous prey. Unnecessary chances are frowned u by old-timers in this sport and they see nothing brave in the care hunter.

A Drop of Water

(*From Page* 1)

orkers, from Game Commissioner to mmon laborer, from Fish Commisner to sportsman engaged in a eam improvement project, and from epartment of Forests and Waters to ghway Police, hundreds of men and omen have worked over the years, orked perhaps unknowingly, to plan e perfect vacation for two old felws who deserved it. And whom, hoever they are and wherever they ay be, appreciate every bit of it. I e to think of it that way.

So you see, in spite of the bickering d the squabbling that sometimes ems to rule our affairs, we are on the ght and the good trail and we are ining on the main goal. I like to ink that every man working for nnsylvania was directly helping our o old friends to totter safely along e vacation path they had chosen. at hundreds of men had and were lping to smooth the path for their eble old car. And other hundreds d planted the fish they were able to tch. And the many more who were gaged in caring for the wild birds d animals they saw were also helpg. We saw a bear in Potter County.

The main goal is clear. Simply that nnsylvania be a better place to live . Also to respect the right of each dividual to his freedom. And whether be young and strong, or aged and eble, to protect and enrich the Pennlvania he calls home. Our state, you ust understand, is first of all it's ople.

Now about the drop of water. Withut it there would be no Commonealth of Pennsylvania. We could rdly exist without raindrops. We ve been altogether too careless about ater, and how we used it. Because in fell in abundance we thought we uld afford to be careless. We wasted ater. The time is rapidly approachg, however, when there won't be ough clean water to fill the need. some sections that time is already on us.

As anglers, we are already feeling e pinch. Industrial and mine acid astes shut us off many miles of reams. We crowd onto the unpolted streams. And land owners who ere tolerant of occasional fishermen re increasingly posting land against ir increasing crowds. A good share the waters flowing through public nds, that is, State Game Lands or State Forests, are polluted by privately owned mines or industries. All this has come about, and come onto us sometimes swiftly, simply because we had water in abundance, and were careless.

The unfortunate phase of the whole situation is that water owns an inherited tendency to run downhill. Carelessness in waste disposal by one may cause loss or damage to others many miles removed. And since it has been the custom in our country to dispose of waste via the "water runs downhill" system for so very many years a good bit of opposition develops whenever corrective measures are proposed.

Sometimes, though, opposition is a good thing. It helps clarify the situation. I think it is plainly evident to anyone who travels widely in Pennsylvania that those valleys wherein the waters are polluted are neither so well kept or prosperous or so productive as is the case where pollution is at a minimum. There is a lesson in this fact. If Pennsylvania is to continue to attract new industry and to grow in population, it must either find new valleys or clean up the polluted ones. Clean new land does not roll off assembly lines like new automobiles. It's up to us to make the best of what we already have. It is all we will ever get.

Now the role of the licensed fisherman in the furtherance of a Clean Streams program is, as I see it, twofold. In the first place, because he owns a very personal interest in fish and fishing, any progress in pollution abatement will benefit him immediately and directly. Perhaps the best way the average man can assist this effort is to support his local sportsmen's club. The day has come when any political candidate worthy of the name stands ready to appear before his district sportsmen's organization to answer their questions and seek their approval of his candidacy. He will, that is, if the meetings are well attended by voters. In almost any district in Pennsylvania the sportsmens vote, solidly assembled, can make or break the candidate. We ought to remember that.

The angler's second duty, and I put it second not because it is of less importance, is to look out for the little things. We are not a passel of angels, we fishermen, and we have spoiled a lot of fishing scenery ourselves. The broken bottles, the tin cans, defunct auto tires, and other offensive debris, are, in large part, our own doing. In some cases I know, they have been our undoing, for they have caused "No Trespassing" signs to bloom where none had bloomed before. This is no time to say "I didn't do it", this is the time to clean up the mess. I admit it is not so much fun to pulverize a broken bottle or bury a tin can as it is to catch a trout, but I believe that if we do it, and continue to do it, we will profit by it. In the name of common honesty, while we are pressing for more and more Clean Streams, we should set our own house in order.

Simple But Effective

If you ever want to determine the weight of a fish and no scales are handy try this method. Measure the length and girth. Multiply the length by the square of the girth and divide the results by 800.

For example if your fish is 18 inches long and 10 inches in girth—18x10x10 equals 1800 divided by 800 gives your 2.25 pounds. Although this won't be exact you will be surprised how accurate it is.

Wardens Nab Netter in Snyder County

What, had all the earmarks of a commercial enterprise was terminated on Friday April 14 when Otto Glace of Selinsgrove R. D. No. 2, Pa. was apprehended by Field Officers of both the Fish and Game Commissions. As evidenced by the photograph, Glace was well prepared to carry on the commercial industry of netting fish in Penns Creek.

In the photograph displaying the equipment recovered by the officers are left to right Clyde Lauback and Raymond Holtzapple both State Game Protectors. These men assisted State Fish Warden Carl A. Bidelspacher of Williamsport who made the photograph.

In the basement of the defendant's home the officers found a large concrete tank with running water where he kept the fish until disposed of. The defendant was fined $100 and sent to jail for 30 days.

Lake Trout

Edited by

LOU S. CAINE

ONE of the largest and most powerful of our fresh water fishes, the lake trout, deserves a much brighter place in the angling sun. Its true fighting character is shadowed by the methods necessary in fishing for it.

Since most lake trout are caught in summer, in extreme depths, it is necessary for the fisherman to use tremendously heavy weights to sink their bait. Some of these weigh several pounds.

Despite the huge size and stellar fighting qualities of this fish the cumbersome sinker virtually reduces the affair to a "haul and wind" process.

However, during early spring just after the ice goes out, and in the fall, anglers with light tackle have the time of their lives taking these splendid fish in the shallows. If the lake trout could be taken like this the year around, it would undoubtedly be one of our top ranking game fish.

Other names by which the lake trout may be known are: Forktail Trout, Gray Trout, Great Lakes Trout, Laker, Landlocked Salmon, Longue, Machinaw Trout, Namaycush Trout, Salmon Trout, Tongue.

The lake trout is a charr and therefore closely related to the Dolly Varden trout and brook trout because of the formation of the teeth in the roof of its mouth.

Although color varies widely because of different water conditions, generally it ranges from very dark gray to a light pale gray. The body is profusely covered with pale spots which often are tinged with pink. Tail is forked and flesh varies from white to rosy pink.

From New England states westward through Great Lakes to British Columbia, and north of this area to Labrador, Hudson Bay and Alaska this fish may be found.

In early spring, lake trout can be found on reefs or shoals from 10 to 20 feet down. However, lake trout cannot thrive in waters warmer than 65°F and prefers temperatures of 40°F to 50°F. In summer, these fish are found in water of 40 to 100 feet in depth.

The world's rod and reel record is a 63 pounder taken by Miss L. L. Hayes in Lake Athapapuskow, Manitoba, Canada, August 22, 1930. Shallow water lake trout average around 5 pounds; those from deep water average from 8 to 15 pounds.

Smaller lake trout are very tasty but the larger ones are quite fat and have an oily flavor some find objectionable.

The food of the lake trout consists of flies, insects, small whitefish, herring, smelt and other small fish.

When in the shallows, lake trout will take fly lures like the Wilder Dilg, Popper Spook and Bass Bug Spook; also pork rind lures like the Ace and the smaller River Runts.

In deeper water, plugs like the Vamp Spook, Go Deeper River Runt, Punkinseed and Dowagiac Spook are excellent; also larger spoons like the King and Queen. To reach extreme depths it is necessary to add a keel sinker about 18″ ahead of the plug.

The majority of lake trout are taken trolling. However, when in shallow water they can be taken by bait casting, fly casting and spinning.

For trolling, heavy tackle is required. Tubular steel rods like the "Pal" in sturdy action, or the "Riptide" split bamboo rod, are ideal for lighter trolling. Where extra heavy sinkers are necessary, a rod like the "Pal," which has a 6 oz. tip, provides the necessary backbone.

A good trolling reel is a size 3/0 s water model equipped with a st drag. Many trollers use a short, st rod with an oversize single-action re built in for handiness.

For bait casting, an outstanding ou fit is a medium or stiff action in t "Pal" tubular steel, and a reel like t "Pal" which will hold 100 yards of pound test line, with arbor remove

For fly fishing, heavier rods like t "Power Plus" built on a No. 2¾ fe rule, made of split, tempered bambo are best. This rod is 9 feet in leng and has the necessary backbone handle the surges of this strong fis It is advisable to use ample backi of casting line, in addition to the reg lar length of fly line, to handle lo runs. Leaders should be chosen a cording to the average size of fi being taken. An excellent reel for th outfit is the Imperial single acti model.

For spinning, a medium action, foot tubular steel rod like the "Pa will prove best. Small lures like th Ace spoon, Midget River Runt ar Midgit Digit are excellent either ca or trolled slowly in the shallow waters.

Some lake trout are taken still-fis ing with live bait. Any standard stil fishing outfit is satisfactory for th purpose.

Although many fishermen cast skeptical eye on lake trout fishing be cause of the heavy tackle necessar for taking them, this kind of fishin has a steady following. It is very re grettable that this fine game fish live in depths that usually require bulk tackle to match the style of fishin instead of the average size of the fis

Huntingdon County Boy Lands Notable Prize Brook Trout

James Snyder, Jr., 11 years old of Orbisonia while fishing in Black Log Creek in Huntingdon County on April 15 snagged into a 3 lb. 19½″ long brook trout. The monster measured 10″ in girth and is of exceptional interest in that this stream has not been stocked with brook trout for many years. According to the fish grapevine in the area this is the largest brook trout ever taken and while the Pennsylvania Fish Commission considers it among the largest if not the largest brook trout ever caught in the public fishing waters of Pennsylvania. The fish was taken on a worm.

Home-grown Worms

To fishermen who wish to raise their ow fishing worms, the following method is re ommended:

Construct a frame 4 by 6 feet and 1 inches in depth. To this nail a tight boar bottom. Place in the box about five inche of good soil and on top of this put a layer coffee grounds and corn meal. Now put i the box 500 or 600 fishing worms, after whic fill the box to within about two inches of th top with another loose layer of soil.

On the top layer of earth place a mixtur of coffee grounds, corn meal and vegetabl shortening. Coffee grounds may be adde as they become available and once a mont corn meal and vegetable shortening shoul be sprinkled on the top of the earth.

Worms thus cared for will remain in goo condition and will reproduce, thus providin a constant supply.

Smaller equipment may be desired, an many worm gardeners use old wash tub or other containers. These first should b cleaned and painted with a good hard pain and permitted to dry before the earth, foo and worms are placed in them.

"No-Fishing" Signs Are Coming Down

By Don Shiner

It appears as though free hunting and fishing is near an end! Conditions are pointing to that and it is with regret that thousands of sportsmen throughout Pennsylvania are being deprived of their pastime. Farmers are key figures in this new era as can be seen when driving throughout the country, the many NO TRESPASSING signs being erected. Actually the trouble lies in the fact that thousands of sportsmen literally swarm to certain localities and cause no end of worries for the landowners. This is particularly true when word is received that hatchery trucks have just visited the streams.

Since World War II the army of fishermen and hunters has increased by leaps and bounds, until today, only four years later, over 15,000,000 are shouldering a rod and gun and spend thousands of man hours afield. So gigantic are these crowds of fishermen that farmers are growing weary of the many foul acts being caused to them.

Fields have paths down the center of healthy growing crops; fences are torn down; rubbish thrown about; crops stolen by the pocketfull; in general, sportsmen's ethics in many cases are going down hill! What is resulting is that "NO TRESPASSING" signs are being erected at an alarming rate in various counties throughout the state. Streams that were frequented by sportsmen and gave them many hours of relaxation are now closed. Tacked on every tree and sign post are not the familiar election signs but rather those with big bold type stating "PRIVATE PROPERTY."

The West End Hunting & Fishing Club of Berwick, Pa., is making fine progress to correct this situation. They are re-educating the farmers, not in text book studies, but rather in the facts that sportsmen do realize how important the farmer is; that sportsmen do have respect for him and his property; and lastly that sportsmen desire to be good neighbors. This club having a total of 300 members, is distributing posters throughout Columbia and neighboring counties along those streams most frequented by fishermen. These signs simply say, "FISHERMEN! Respect this Land-owner and his Property." Every fisherman is constantly reminded to use the streams and fields more ethically.

Such action by a sportsman's club is to be commended as an extremely progressive step toward improving farmer-sportsman relations. The president of the club, together with the other club officials as well as each individual member is doing a grand job for the sportsmen in Columbia and Luzerne Counties. Their work should be a symbol to all sportsmen and sportsmen's clubs throughout the state.

Sportsmen are requested to look for these newly erected posters and to strictly abide by them so that once again the time will be at hand when sportsmen will have free access to the farmer's fields and streams.

No one has yet been able to perform the feat of keeping the mouth and the mind open at the same time.

A Department of Agriculture bulletin tells how to cook carrots, but doesn't say why.

Bear in mind that when you put one foot on the accelerator, you may be putting the other in the grave.

Eddie Rickenbacker Writes A Code for Good Sportsmen

Captain Eddie Rickenbacker, president and general manager of Eastern Air Lines, always has been known as a man of action. Long an observer of the plight of American wildlife, the famous flier recently suggested a creed for all sportsmen. He calls it a "Challenge to Sportsmen." It follows.

1. Game law violators are thieves. Treat them accordingly.
2. Teach beginners their obligations as well as pleasures afield.
3. Devote as much effort to improving habitat as you do to harvesting the fish and game.
4. Actively work to improve farmer-sportsmen cooperation.
5. Become an active and constructive member of a sportsmen's club.
6. Demand sound conservation legislation.
7. Let maximum sport, rather than kill, be your guide.

THE WATER MITES

By Carsten Ahrens

The water mites belong to that large and interesting group of eight-legged animals that include the ticks, spiders, scorpions, and the king-crabs. Most of them, except for the water mites, the king-crabs, and a few others, are terrestrial. At first glance, the water mites seem to be little water spiders for their mouthparts seem spider-like and there are eight legs. However, a second glance will show that there is no segmentation; the body is not divided into two parts.

Water mites have been found in salt water and in swift mountain streams, but the greatest number of species are reported from permanent fresh water lakes where there is an abundance of plant and animal life. Most of them are small, from 1-2 mm in length, but some are even more minute, and one species grows to a ponderous 5 mm.

There are some three dozen families of mites, and their coloration is monotonously drab. The Hydracarina group is a welcome exception. Here are found brilliant reds, greens, yellows, and blue, often with a high metallic luster. Again while most mites are oval, occasionally fantastically-shaped Hydracarina are found.

All the water mites lay eggs, and each species seems to have a particular plant or animal in or on which it deposits the ova. The eggs are often as bright as the parents. They are covered with a gelatinous film that is transparent but tough. The incubation times varies greatly. The larva has but 6 legs when it hatches, and since it immediately becomes a parasite, it frequently loses some of them. When it becomes an adult, it has its full complement of eight legs. The legs help to identify species for the *swimmers* have long hairs near the joints. The *crawlers* lack these swimming aids and tend to be sluggish.

The water mites are parasites during part or all of their existence, and there are few aquatic animals that escape their sucking palpi. They work their way into colonial protozoa and into the fresh-water sponges at the lower end of the animal kingdom and are found in freshwater clams higher up the ladder. I have found them most commonly on the larvae of water insects. The water-boatmen, water-bugs and beetles, water-scorpions and striders, dragon-and damselflies, and gnats act as hosts. Frequently they parasitize the adults. I have counted as many as fifty mites on the thorax and abdomen of a single damselfly.

The water mites are probably of slight economic importance. Their contribution to the food of fishes is not considerable even though in stomach studies of fish their presence is often noted. But their activities add splashes of raw color to one's study of the underwater world.

PENNSYLVANIA FISH LAW VIOLATIONS

Cases Settled During the Month of April 1950

Allegheny County

Allen, Samuel, 1412 Juniata St., Pittsburgh, Pa. Exceeding creel limit ..... $ 20.00

Baur, James L., 1 Seldon St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00

Benaglio, Louis, R. D. No. 1, Allison Park, Pa. Violation of the Rules and Regulations 20.00

Chapman, Curtis, 913 First Ave., Brackenridge, Pa. Fishing before 5 A. M. on April 15th before season opened 20.00

Dugas, John, 1817 Harchums St., Pittsburgh, Pa. Exceeding creel limit 20.00

Dulski, Stanley, 1240 Sixth St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00

Kloes, Carl R., Box 86, Wildwood, Pa. Violation of the Rules and Regulations 20.00

Kozler, Edward A., 914 Obrien St., Millvale, Pa. Violation of the Rules and Regulations 20.00

Lesko, Albert J., 211 Edmond St., Bloomfield, Pa. Exceeding creel limit 10.00

Mack, James, 1329 Hopkins St., Pittsburgh, Pa. Exceeding creel limit 20.00

Maclyak, John, 200 N. Avenue, E. Pittsburgh, Pa. Violation of the Rules and Regulations 20.00

Medwig, William, 313 Oakwood Ave., Pittsburgh, Pa. Fishing without a license 25.00

Medwig, Mrs. William, 313 Oakwood Ave., Pittsburgh, Pa. Fishing without a license 25.00

Patton, Henry P., Box 193, Laurel Garden's, Pa. Exceeding creel limit 10.00

Siegel, Alexander, Box 96, Curtisville, Pa. Violation of the Rules and Regulations 20.00

Siegel, Harry G., Box 96, Curtisville, Pa. Violation of the Rules and Regulations 20.00

Silvoni, Louis, 1463 Mervin Ave., Pittsburgh, Pa. Exceeding creel limit 10.00

Armstrong County

Marcinek, Edward F., 1209 Sixth Ave., Ford City, Pa. Operating motor boat without license 10.00

Beaver County

Kaercher, Earl F., R. F. D. No. 4, Beaver Falls, Pa. One tadpole in closed season 10.00

Scott, John B., 2035 Oriole Drive, Aliquippa, Pa. Fishing without a license 25.00

Bedford County

Barndollar, George H., R. F. D. No. 1, Clearville, Pa. Violation of the rules and regulations 20.00

Bush, Glenn, Baker Summit, Pa. Exceeding creel limit 10.00

Berks County

Huff, John, West Leesport, Pa. Violation of the rules and regulations 20.00

Polito, James, 836 Muhlenberg St., Reading, Pa. Violation of the rules and regulations 20.00

Schaffer, Larry, 1201 N. 10th St., Reading, Pa. Violation of the rules and regulations 20.00

Simons, Victoria, 432 Morgantown Rd., Reading Pa. Violation of the rules and regulations 20.00

Simons, George, 919 N. 8th St., Reading, Pa. Violation of the rules and regulations 20.00

Blair County

Christofic, Eugene B., Box 25C, Altoona, Pa. Violation of the rules and regulations 20.00

Finnegan, Irvin, Box 215C, Altoona, Pa. Violation of the rules and regulations 20.00

Schum, W. H., 120 E. 5th St., Altoona, Pa. Violation of the rules and regulations 20.00

Bradford County

Conrad, Robert, Columbia Cross Roads, Pa. Violation of the rules and regulations 20.00

Larrabee, Benjamin H., R. F. D. No. 1, Towanda, Pa. Violation of the rules and regulations 20.00

Rhoades, Wesley C., New Albany, Pa. Violation of the rules and regulations 20.00

Bucks County

Millon, Louis M., 216 Aborlea Ave., Morrisville, Pa. Fishing on Sunday without permission of land owner 25.00

Cambria County

Bearer, J. Earl, 215 Brewer Ave., Patton, Pa. Three undersized trout 30.00

Sperry, Benjamin F., 634 Moger Ave., Patton, Pa. Two undersized trout 20.00

Carbon County

Thompson, Mark, Palmerton, Pa. Fishing on Sunday without permission of land owner 25.00

Thompson, Mark, Palmerton, Pa. Interference with officers 100.00

Centre County

Gates, Richard P., R. D. No. 2, Howard, Pa. Fishing without a license 25.00

Kurzinger, Ambrose V., Pleasant Gap, Pa. Two undersized trout .. 20.00

Swartz, Clyde G., 420 Logan St., Bellefonte, Pa. Violation of the rules and regulations 20.00

Swartz, Clyde G., 420 Logan St., Bellefonte, Pa. Rods not under immediate control 20.00

Clearfield County

Hurd, Stanley, DuBois, Pa. One undersized trout 10.00

Philips, David, Brisbin, Pa. One sucker in closed season 10.00

Clinton County

Allison, Robert S., 371 W. Park St., Lock Haven, Pa. Violation of the rules and regulations 20.00

Arnold, Ward, Hammersley Fork, Pa. Exceeding creel limit 50.00

From, Carl P., Beach Creek, Pa. Violation of the rules and regulations 20.00

From, Carl P., Beach Creek, Pa. Illegal device 20.00

Lucchesi, Harry, 226 S. Jones St., Lock Haven, Pa. Violation of the rules and regulations 20.00

Lucchesi, Mrs. Harry, 226 S. Jones St., Lock Haven, Pa. Violation of the rules and regulations 20.00

Delaware County

Bouchelle, A., 204 Tatnall St., Norwood, Pa. Exceeding creel limit .. 10.00

Erie County

Goodwin, Charles W., R. D. 2, West Ridge Rd., Erie, Pa. Failure to display button 25.00

Jackway, Merle, 529 Myrtle St., Erie, Pa. Unlicensed device 50.00

Franklin County

Houser, Ralph F., R. D. No. 2, Chambersburg, Pa. Violation of the rules and regulations 20.00

Reid, Charles W., 19 S. Grant St., Waynesboro, Pa. Exceeding creel limit 20.00

Huntingdon County

Geissinger, Clair A., Mill Creek, Pa. Illegal device 20.00

Indiana County

Burkett, Clair, Armaugh, Pa. Fishing without a license 25.00

Masco, Robert, 6917 Greenwood St., Pittsburgh, Pa. Failure to produce license 25.00

Lackawanna County

Yanovitch, John, Rear 1025 Capouse Ave., Scranton, Pa. Violation of the rules and regulations 20.00

Lancaster County

Buchanon, Charles, 417 W. Market St., Marietta, Pa. Violations of the rules and regulations 20.00

Huber, Norman, R. D. No. 6, Lancaster, Pa. Offering and exposing for sale striped bass less than 18 inches 70.00

Miller, Ray, 1690 W. Market St., Marietta, Pa. Operating motorboat without displaying license 10.00

Lawrence County

Montgomery, Robert C., 132 Mahoning Ave., New Castle, Pa. Violation of the rules and regulations 20.00

Watkins, Roy E. Sr., 604 W. North St., New Castle, Pa. Violation of the rules and regulations 20.00

Watkins, Roy E., Jr., 812 W. State St., New Castle, Pa. Violation of the rules and regulations 20.00

Lehigh County

Hahn, Kenneth, 113 Fuller Ave., W. Catasauqua, Pa. Violation of the rules and regulations 20.00

Hahn, Warren, 113 Fuller Ave., W. Catasauqua, Pa. Violation of the rules and regulations 20.00

Luzerne County

Grigutis, Anthony F., 226 Pringle St., Kingston, Pa. Exceeding creel limit 10.00

tch, George, 15 Milbre St., Swoyerville, Pa. Fishing with a borrowed license 25.00
aramucci, Mello I., 34 James St., Plains, Pa. Violation of the rules and regulations 20.00

oming County

rrar, Ralph W., 1040 Franklin St., Williamsport, Pa. Eleven undersized trout 110.00

rthampton County

linsky, Frank, R. F. D. No. 4, Bethlehem, Pa. Thirteen trout in closed season 130.00
degrove, Clyde W., 334 4th St., Bethlehem, Pa. Failure to display button 25.00

rthumberland County

truskevich, Joseph, 10 S. Quinn St., Mt. Carmel, Pa. Violation of the rules and regulations 20.00
makis, Raymond E., 638 E. 5th St., Mt. Carmel, Pa. Violation of the rules and regulations 20.00
oney, Ed, 31 Spruce St., Mt. Carmel, Pa. Violation of the rules and regulations 20.00

iladelphia County

iller, Charles, 2518 S. Bonaffon St., Philadelphia, Pa. Fishing with bait in Bushkill Creek. Special project 20.00
rliack, William, 2658 S. 68th St., Philadelphia, Pa. Fishing with bait in Bushkill Creek. Special project 20.00

e County

cKean, Hugh, Shohola, Pa. Violation of the rules and regulations .. 20.00

huylkill County

ust, Allen R., R. D. 1, Pottsville, Pa. Fishing without a license 25.00
ain, James, R. D. No. 1, Pine Grove, Pa. One bass in closed season 10.00
uritz, John, 31 S. Catherine St., Shenandoah, Pa. Violation of the rules and regulations 20.00
hman, Charles E., R. D. No. 1, Pine Grove, Pa. One bass in closed season 10.00
hman, Clayton, R. D. No. 3, Pine Grove, Pa. One bass in closed season 10.00

yder County

lace, Otto, R. D. No. 2, Selinsgrove, Pa. Possessing nine illegal nets without permit 100.00

merset County

ort, Lawrence M., Hooversville, Pa. Fishing without a license 25.00

ashington County

eener, Alva, 73 Caldwell St., Washington, Pa. Violation of the rules and regulations 20.00

ork County

rown, Curtis, 320 W. Hope Ave., York, Pa. Violation of the rules and regulations 20.00
off, Raymond E., 2177 Banister St., York, Pa. Violation of the rules and regulations 20.00
Ochenrider, Gordon, 148 Devers St., Dallastown, Pa. Violation of the rules and regulations 20.00
Ragusa, Antanio, 535 Walnut St., York, Pa. Violation of the rules and regulations 20.00
Reynolds, William, R. D. No. 3, Delta, Pa. Four game fish in possession in closed season 40.00
Sharp, Charles, 330 W. Hope Ave., York, Pa. Violation of the rules and regulations 20.00
Stearn, Norman, R. D. No. 3, Delta, Pa. Interference with officer 100.00
Stearn, Norman, R. D. No. 3, Delta, Pa. Illegal device 20.00
Yeaple, Charles E., Jr., 200 S. Pattison St., York, Pa. Violation of the rules and regulations 20.00

Out of State

Sadler, Lester S., 4th St., Fieldsboro, N. J. Illegal use of net in Delaware River off Pennsylvania shore 100.00
Sadler, Charles, 4th St., Fieldsboro, N. J. Illegal device 20.00
Gardner, Walter R., 250 Chenango St., Binghamton, N. Y. Giving false information to obtain a resident license 25.00
Probst, Walter, 397½ Niagara St., Buffalo, N. Y. Fishing with a resident fishing license 25.00
Edwards, Russel M., 7720 Rosewood Ave., Cleveland, Ohio. One undersized trout 10.00
Rankin, Frederick T., 213 Second St., St. Marys, West Va. Fishing with a resident fishing license 25.00

Skish as a Park Activity

(*From Page* 9)

yellow and green, each being painted a distinct color. All should float about one inch above the surface of the water.

BENCHES AND SHADE

All casting pools should be provided with a few benches and shade if at all possible. Many fishermen following this sport will spend an entire Sunday at the pool with no time out except for lunch. Benches and shade will also draw spectators to the pool, many of which become interested and join in the activity. In quite a few instances no shade is possible over the platforms because of the clearance needed for casting, in which case awnings have been provided by the clubs or the park officials.

NIGHT CASTING

In all parks equipped with lights for night casting, the sport of target casting has attracted a much greater number of participants. This is practically a must where the temperature reaches near or above the one hundred mark. Lighted pools also draw from a greater number because it gives one sufficient time to reach the pool and still enjoy two or three hours of relaxation in place of one. Lights will more than treble the attendance.

BOATS

All parks planning casting pools with a soil bottom should provide a boat for use when placing targets in the water and for retrieving them. Boats for this purpose should be safe for two full grown men. Normally most clubs use boats of sufficient size for three men who act as judges for the games when the judging cannot be done from the platform or shore. In the event the boat must be removed from the water at the end of the day, make sure it is no heavier than need be.

Fishermen using wading pools for this sport are equipped with a pair of waders for use when it is necessary to be in the water. Boats should be used when the water has a depth of two feet or more.

HOW TO FORM A CLUB

Park executives who are interested in sponsoring this activity should contact the leaders of the sportsmen's clubs in their area. These clubs will, without a doubt, appreciate the opportunity to co-sponsor better casting for the benefit of their members. With these men as a starter, and with notices in the local papers, a great many fishermen will be interested. It is surprising how many fishermen will take advantage of these facilities if informed that they are for their use and there are no strings attached. Too often these facilities are furnished because park officials have been requested to do so by fishermen. But, to get the most from the facilities furnished, the parks should promote interest in the sport among all fishermen.

The parks are well organized, while fishermen as a whole are not. They require leadership to bring this fascinating hobby to the parks. You can give them that leadership by bringing the sport to them. It is, without question, one of the cleanest sports we have today.

With proper planning and a bit of promotional work through your local papers, you can be assured full support from the fishermen in your own area. Why not give them a chance to play at their hobby, even though no fish will be caught? I assure you, fishermen will have only praise for the chance.

—*Parks & Recreation Magazine.*

The so-called Silver eel is just a common Green eel with a date . . . When they are six to eight years old, eels stop feeding and change to a silvery color for their long trip out into the ocean to spawn and die.

Ecological Sense or Nonsense

(*From Page 3*)

and ranching, and our fish and game than nearly all others put together.

In this booklet the problem of silting is discussed, and several accompanying photographs made me think of our local duck pond which is losing ground to the ever increasing silt, which is carried into it. The pond itself is no fishing paradise; it does not contain either huge trout or smallmouth bass, but it does contain an abundance of catfish, which properly managed could provide much recreation and training for the youth of our town. Instead we neglect to take advantage of this opportunity and turn our storm sewers in this direction so that tons of good soil, lost from our lawns and gardens, are being deposited to push the catfish into a smaller and smaller area with their end clearly in sight. We here are not peculiarly negligent in this respect because it is happening many times in many localities, but this is hardly conservation in any sense of the word. There also comes to mind a pond several miles distant, which is called Ten Acre Pond or perhaps which was called Ten Acre Pond because during the war it was necessary to repair a railroad embankment that consequently shut off the supply of water to this area. Today it stands dried and caked with no water and its catfish population gone. When we fight long and hard to gain some water for fishing and recreation in one place, it is rather foolish to be willing to lose something that we already have in another instance. If new ideas in conservation indicate progress, then certainly we are going forward. However, if progress is measured in the gaining of new objectives without sacrificing the old ones, then we are too often dismal failures.

In the following order, the important and fascinating topics of small and large dams, controlling run-off water, farming methods, and keeping streams clear and clean are simply and adequately discussed with many illustrations to develop interest. Truly this little booklet for grades 4, 5, and 6 is an education in itself.

The third booklet is entitled "Plants and Animals Live Together." It serves really as a fundamental introduction to the field of bioecology, but the illustrations and topics bring to mind problems of conservation that we, as hunters and fishermen, often overlook. We read about the Dingle Bill and its importance as a measure to secure much needed money for research in our fisheries. We discuss the stocking of fingerling trout in the State of New York and the results that have been obtained, and then we try to evaluate this in light of the results in Michigan. We worry about bait-fish and fish-bait and many other more or less complicated topics worthy of our intellect. But, this little booklet talks about the bees and the flowers; the birds and the insects; the field mouse and the hawk; the squirrels and the acorn; and many other ecological relationships, which exist in the field of conservation. I must confess that I am much concerned with fish conservation but honestly think little about spraying with DDT with its possible future effects on our insect population. I am certain that to kill house flies, the mosquito, the Japanese Beetle, and similar pests is necessary and in the end serves the best interests of conservation, but at the same time we can hardly avoid the killing of certain desirable species of insects as well as other wildlife. It is a known fact that spraying for the gypsy moth leaves a temporary contamination of our streams and lakes, which might actually kill a limited quantity of fish. Tests indicate that the spraying for gypsy moth in the Pocono Mountain area resulted in an 80% loss in aquatic life and a 2% loss in fish. We know also that to spray potatoes with arsenate of lead and other similar toxic substances can and will kill fi in a farm pond if too much of it fin its way there as the result of a ha rain. We know too that there is t ever present danger of killing the be with DDT, which otherwise would po linate many flowers in their bu rounds of collecting materials for t production of honey. There is no den ing that all of these conditions ar many more should occupy a positic in our conservation thinking, and y too often they do not. The thing th I like most about this third bookl is that it vividly brings to mind man of the rather simple and elementar problems of conservation.

Booklet number four is entitle "Nature's Bank—The Soil" and packed with facts and figures. If yo like your conservation expressed i tons and millions, feet and dollars, the this is the book for you. A progra of conservation built around the so could not be wrong, and if we had t concentrate on but one program, th would probably bring the greatest re ward. Our soil, with all its implica tions, is our greatest natural resourc Not only do we live on it, but we fee ourselves with what it produces. Th potatoes and corn, the wheat and ric the sugar cane and pineapple are onl several examples of what various civ ilizations use as staples. Not only d we feed ourselves but also clothe ou selves as well from the soil. Whethe it is cotton that we use to make ou

After the cutting came the farm. Notice the establishment of a new corn field in the right of the picture. This was a clear cut area and its effects on water runoff into the hollow shown can be visualized.

esses or wool to weave our suits, ey are in reality products of the soil. ven the nylon must come from plant oducts produced thousands of years o but nevertheless from the soil. ur coal, our oil, and our uranium all me from the soil. Is it any wonder at it can be called our greatest natal resource and warrants our greatt consideration. As a matter of fact e might make the problem a little sier, or perhaps more difficult, by ncluding that only the skin of the il is of much immediate value to us. his top soil is only inches deep in mparison but yet it is most imporint to us now. In parts of our couny water and wind erosion have alady eliminated most or perhaps even l of it. Where it was thin to start ith, it is gone entirely; and where it as several feet thick, it has been reced to a minimum. Water has been e biggest culprit in removing this p soil but only because we estabshed the conditions for it to happen. ur floods are man made too, not eliberately I am sure, but the result our carelessness and thoughtlessness. provide protection for our top-soil ould have the almost automatic bene of reducing our flood damage. To duce the flood damage would save ir streams from silting and the coverg of the natural spawning beds of our sh, and all of this of course would sult in better fishing. If the millions dollars that are spent on dams to ntrol floods were spent instead in dequate protection of our top soil, we ould reap a double rate of interest. he evidence indicates that there were ways floods, and not all our troubles e man made. De Soto described the Iississippi in flood the first time he w it, and at that time certainly no ne had plowed the land. Yet we have creased our danger and our damages y further contributing to the causes floods.

Fortunately some steps have been ken in the conservation of certain nportant minerals found in the soil. this case their importance has been ecognized probably not primarily beause of conservation as such, but ther because as minerals they are nportant to our age, including our ars. Deposits of potassium in New Iexico and Texas have been set aside be mined under a conservation plan. hosphorus has moved into the same tegory, and some half dozen states e involved with their deposits of is important element. Nitrogen is ade synthetically, and its developent was a necessity of war rather an conservation. These are the big ree of our fertilizer program, and the rmers are applying them at tremendus rates. The prewar figure on the cost of fertilizer used by the farmers of this country was two hundred million dollars, and no doubt this has increased considerably since then. This, it seems to me, can be included in the cost of our present efforts at conservation, and although the farmers of this country may not think they are contributing to conservation, they, as a group, might be contributing the most. Essentially as a result of economic reasons and not because of any forethought of conservation, several other resources are being preserved. The low price of oil per barrel reduces the output of certain wells; the coal strikes save some coal. Although we cannot argue that these things are good from an economic point of view, the fact remains that through them certain natural resources are being conserved—if only for a short time.

As conscious planners of conservation, this would be a negative approach while the correct approach is a positive one. What are we, as sportsmen, doing today in this positive action of conservation? We must roll up our shirt sleeves and get to work with our hands as well as with our words.

Fishing Folks

It seems that folks who go to fish in ocean, lake or stream,
Are not, for their veracity, held in very high esteem.
Though they may sometimes stretch the truth
In telling of their skill,
The little yarns they sometimes spin
Are meant to do no ill.

I know that folks who go to fish have virtues oft untold;
And if you'd take the time to look,
These virtues you'd behold.
For instance, not so long ago,
While fishing down on Manor Lake,
I lost the string of fish I'd caught;
Their weight had caused the string to break.

Then Henry, Sam and Horace said,
(These fellows had been fishing too)
"You shan't go home without some fish;
We all shall share our catch with you."
Unselfishness is one good trait that those who go to fish possess.
I know you'd find that very true, as did I in my distress.

So when you think of fishermen
I hope you'll give them their just due,
And think of them as something more
Than tellers of tall tales untrue.

—By Charles Schwartz.

Streamside Life

The Cinnamon Fern

By Robert Leo Smith

In wet woodlands, on fat tussocks out in the swamp and on the banks of rocky mountain streams, pale, oddly rolled fronds of the cinnamon fern thrust upward into the thin warmth of April. Unmindful of the chilly nights and the cold water about them, happy in the sunlight that shimmers through the leafless trees, the fronds slowly unfold, shedding the yellowish down that covers them.

The graceful fronds of the cinnamon fern rise in clumps from a creeping underground stem. In late spring the fertile fronds, stiff, straight spires with bright cinnamon-brown tops, appear in the center of the clusters. When ripe the fertile fronds shed their spores to start in a roundabout way a new generation of fern plants.

After they are liberated the spores germinate into small, short filaments, resembling green algae. The filaments develop into small, flat, green structures called the thalli. These are rarely seen even though they are quite common. The thalli bear the sex organs which produce the embryo fern plants. In 3 to 4 years the embryo fern finally reaches maturity.

The cinnamon fern belongs to the genus *Osmumda* and is a relative of the interrupted and royal ferns. The genus was named after the Saxon god, Osmunder, the Waterman, who according to legend hid his family in a clump of these ferns.

From eastern Canada south through eastern United States the cinnamon fern is an old acquaintance of all who frequent the streamside. The wooly fiddleheads of April appear about the time the angler seeks the trout. In May, June and throughout the summer the graceful, wand-like fronds soften the stern lines of the streambank rocks and creates a backdrop for mossy logs and weathered stumps. And although it probably doesn't benefit the fish at all, the cinnamon fern does add a lot of charm to the angler's favorite stream.

Pine Creek Bass are Numerous

(*From Page* 11)

fact, strikes were more numerous now than before the storm.

Just before the storm struck, the farmer from the opposite side of the creek had returned to his boat and we engaged him in conversation.

We wanted to know if many fishermen visited the hole opposite his place and he replied in the negative.

"Too durn hard to git to," he declared. "Most of the fellers who come up thisaway to fish go to yonder hole."

"That's a durn good place to fish, too," offered the farmer. "That there hole down there is a goshawful deep one, so if you fellers can't swim good you'd better stay in this here shaller hole. A kid durn near drowned down there last summer, and if his dad hadn't got hold of him and pulled him out he'd been a-goner.

"He lost his footin' in that there swift water above the head of the hole and quicker'an a wink was flounderin' around in water far over his head. But his pop got him out afore he swallered too much creek water."

The hospitable farmer, evidently desiring our company so the holiday wouldn't be lonesome as most of the other days were, invited us to have dinner with him.

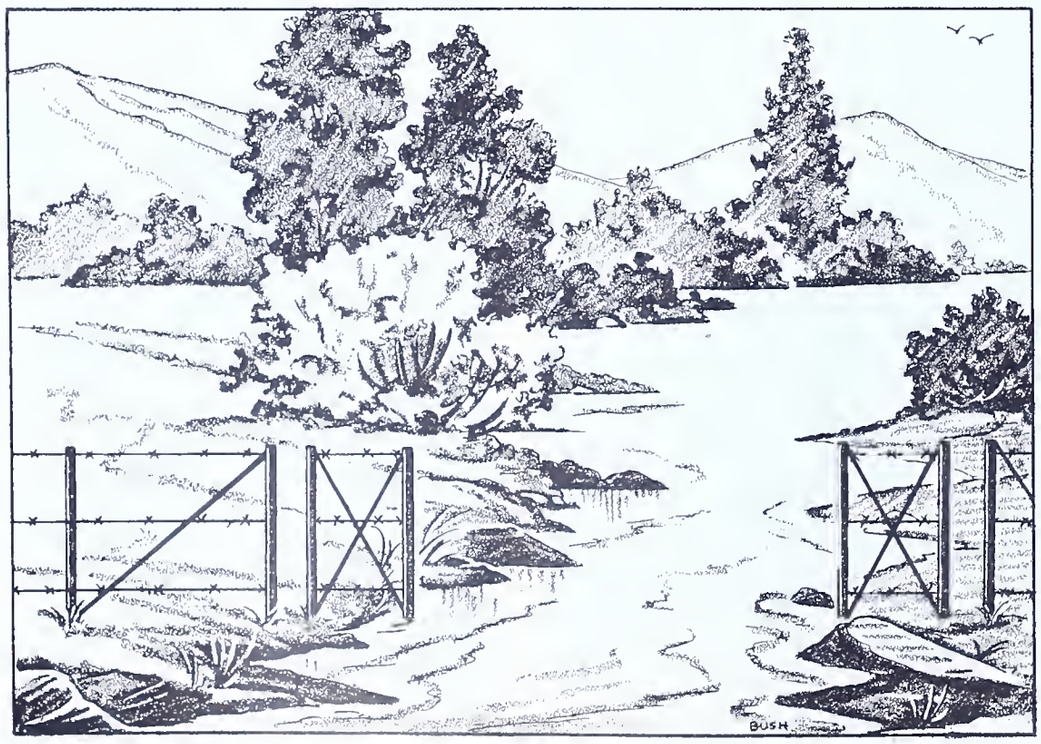
"The ole woman'll have ham and eggs and some fried pertaters, so if you like them there kind of victuals I'll yell when dinner's ready and you can wade over."

We thanked him sincerely, for we were really touched by the earnestness and sincerity of his invitation, but explained we had brought a lunch along with us.

Both Ralph and I had creels of exceedingly nice bass when we started for home early in the afternoon, and I had to admit he knew whereof he spoke when he insisted he knew a hole in Pine Creek that would really yield bass.

New Idea For Creek-Fence

With the thought in mind of better fisherman-farmer relationship Mr. C. W. McCloskey of Bellwood, Pa. suggests the following type of fence to be used on properties abuting streams that are open to public fishing in Pennsylvania. Mr. McCloskey not only intends that the farmer's fence be preserved from abuse by reckless fishermen but contends that a type such as reflected in the above sketch would easily solve the problems of snagged boots, clothing, etc. Mr. McCloskey says "It would take a mighty skinny cow to get through these narrow posts and even a fat man would rather squeeze through than attempt to scale some of the wobbly stiles I have seen along many streams." That the idea has merit is without question but we feel that the project should become one to be promoted by sportsmen in cooperation with farmers and property owners. We certainly can not expect the farmer to construct his fences in this manner without material assistance from the persons for whom the fence is intended. Here is good food for good club activity.



What's New in Fishing Books

Reviewed by Hugh Johnson

There is a sort of shallow chaos in moder angling literature, created by the tendenc of the average fishing book author to writ a little something about everything, and b his inability or unwillingness to select a give phase of angling and develop his book closel and thoughtfully around it. The result is tha the sum total of new angling literature com ing to us today is largely thin, repetitiou and purposeless. Trout fishing is a broac comprehensive subject with enough *specic* phases to challenge the attention of angler authors. Why not a book on nymphs an how to fish them? Or on wet flies? Or on ho to catch larger trout. That brings to min the perfect example of what I mean b specialization—*Taking Larger Trout* by Lawr ence R. Koller (just published by Little Brown and Co., Boston, Mass. $5.00).

Taking Larger Trout is one of the meaties most significant special studies that I'v read in years. Mr. Koller not only picked phase of trout fishing that no one had eve before developed into a book-length presen tation, but he hugs to that theme for th entire 282 pages. It seems to me that he ha corralled into this one, beautifully organize book all there is to know about how to locat and how to catch the big ones. You won' find out here how to catch 8-inch brookie from mountain streams, how to cook trout or how to make lampshades out of thei skin! But you *will* find authoritative treat ment of the special problems involved i bringing big trout to net—which, after all, i the consuming aim of the man who ha reached angling maturity. The chapter-head give an outline-idea of the comprehensive balanced coverage of the subject: The Lur of Larger Trout, Big Trout in Small Streams Big Waters and Big Trout, The Dry Fly an Large Trout, Larger Trout on the Wet Fly Bucktails and Streamers, Baiting for Large Trout, Spinning for Larger Trout, Big Trou at Night, Tackle and Tactics, Lure Desig and Selection.

The fact that most of Mr. Koller's angling experience has apparently been on heavily fished, open water instead of on private an club water, makes him "one of us" an endows his book with an air of work-a-day realism that makes sense to the average fisherman. His book is full of tricks an scores of different procedures and approaches many of which will certainly be new to many fishermen as they are to me, and they all indicate that the author has *learned* the business of catching larger trout under the same public-water conditions that most of us work under.

Taking Larger Trouts, usefully illustrated —including color plates of important flies (showing some of those beautiful streamers tied by Stuart Longendyke of the Angler's Roost in New York), is a book that every conscientious angler *needs*.

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

rders to Municipal Authorities

Orders to construct sewage treatment rks by Feb. 10, 1952, as another important p in advancing the Clean Streams program, have been issued to three municipal thorities comprising 24 different boroughs d townships in Delaware Co., having a al population of 136,000 persons. The thorities are Darby Creek Joint Authority ving the following 13 communities: ringfield, Lansdowne, Clifton Heights, dan, Yeadon, Darby, Collingdale, Sharon ll, Folcroft and Colwyn boroughs and per Darby, Darby and Haverford townps. Combined population is placed at 000.

Muckinipates Authority which serves eight nmunities: Clifton Heights, Morton, Glenlen, Norwood, Folcroft boroughs and ringfield, Upper Darby, Darby and Ridley vnships having a total population of 16,000.

Central Delaware County Authority serves ht communities with a total population of 000: Morton, Rutledge, Swarthmore, Prospt Park and Ridley Park boroughs and lley, Springfield and Nether Providence vnships. Because of location six of the nmunities each will be served by two thorities, one area being in one authority d another area being in a different aurity. They are Clifton Heights and Mor- boroughs and Upper Darby, Darby, Rid- and Springfield Townships. In addition being classed as a part of the Muckinites Authority, the Board also issued a parate construction order to Norwood since has not definitely decided whether it will ceed as a member of the authority or in- ll sewage treatment works independently.

With completion of Philadelphia's three wage treatment works now being built, d the construction of the treatment works the three authorities, abatement of polion of the lower Delaware River will have en accomplished. Chester, Eddystone borgh and Tinicum Township now have sewe treatment plants in operation.

ans Made By Companies Ok'd

Jones & Laughlin Corp., Aliquippa, aver Co., mechanically cleaned sedimenion units for the treatment of 16 million lons daily of wastes from the operation gas washers and a sintering plant at the el mill. The sludge from the units will dried in vacuum filters and reprocessed the reclamation of iron. To be in operon by January 1, 1951.

E. J. Lavino & Co., Millcreek Township, banon Co., towers to treat the cooling ters from the blast furnace thereby reducg the water temperature before going to stream. System now in operation.

Armco Steel Corp., Butler Township, But- Co., oil separator and settling tanks for treatment of about one million gallons ily of wastes from the slab mill rolls consisting of grease, oil and iron oxide, system to be in operation by June 1.

Turner & Westcott, Inc., dairy in West Nottingham Township, Chester Co., system for the treatment of about 39,000 gallons of milk wastes daily through a biological process.

Chef Boy-Ar-Dee, Milton, Northumberland Co., treatment through screening and sedimentation of about 40,000 gallons daily of cannery wastes, system to be in operation by June 1.

Pittsburgh Plate Glass Co., Ford City. Armstrong Co., treatment through settling process of more than two and one half million gallons of wastes daily containing 400 tons of sand and glass grindings.

Lukens Steel Co., Coatesville, Chester Co., concentrator units to replace mechanical treatment units for the treatment of about 10 million gallons daily of wastes containing oxide. The new system will provide for the reclamation of iron oxide and oil. System to be in operation by March 1.

Equitable Gas Co., Center Township. Green Co., oil separators for the treatment of about 9,000 gallons daily of wastes containing oil and settleable solids. System to be placed in operation when the new gas works goes into production.

Board Refuses Permit

The Sanitary Water Board has refused to grant a permit for the reopening of a deep coal mine so that the stream along which it is located may be rehabilitated for recreational purposes—the first time a permit has been refused for that purpose under the Clean Streams program.

Application for the permit was made by Smeal & Dufour Coal Co., for the reopening of a bituminous mine along Emigh Run, tributary of Moshannon Creek, in Boggs and Morris townships, Clearfield Co. The Morrisdale dam, located about two and one-half miles downstream from the mine, has been taken over by the Morris Fish and Game Protective Association and is being developed for public recreation including fishing and bathing. Investigation made by the Health Department Bureau of Engineering, which is executing the Clean Streams drive, showed there is a probability that operation of the mine would cause the formation of acid mine water and that it would be discharged to the stream.

Applicants Turned Down

The Sanitary Water Board has turned down five more applications for the operation of bituminous coal mines because they are located along clean streams and the discharges of mine water would go to those streams in violation of the clean stream law.

In addition to refusing the permits all the applicants excepting one, who had not yet started operations, were also ordered by the Board to cease the discharge of acid mine drainage to the streams.

Other Communities to Get Orders

Municipalities on most of the tributaries of the Susquehanna River which were not included in the orders recently issued to communities on that river and those on the Juniata River and its tributaries, will now receive orders to construct sewage treatment works and have them in operation by June 1, 1952. This action was taken by the Board in extending its previous policy of requiring construction of sewage treatment works by all municipalities along the Susquehanna River from the Maryland-Pennsylvania line to the confluence of the North and West branches of the river to Sunbury, and those on the West Branch upstream to and including Lock Haven, and those on the North Branch to the mouth of the Lackawanna River, which come within the scope of the Clean Streams law. That order also included the municipalities along the Juniata River and its tributaries.

Under the new policy all communities along the tributaries of the Susquehanna River and its two branches up to and including Lock Haven on the West Branch and up to the confluence of the Lackawanna River on the North Branch, which have sewers and therefore come within the scope of the Clean Streams law, will be required to build sewage treatment works. The deadline for them to be placed in operation is the same as that for the communities along the main river. The communities along the Juniata and its tributaries must be in operation not later than May 1, 1952.

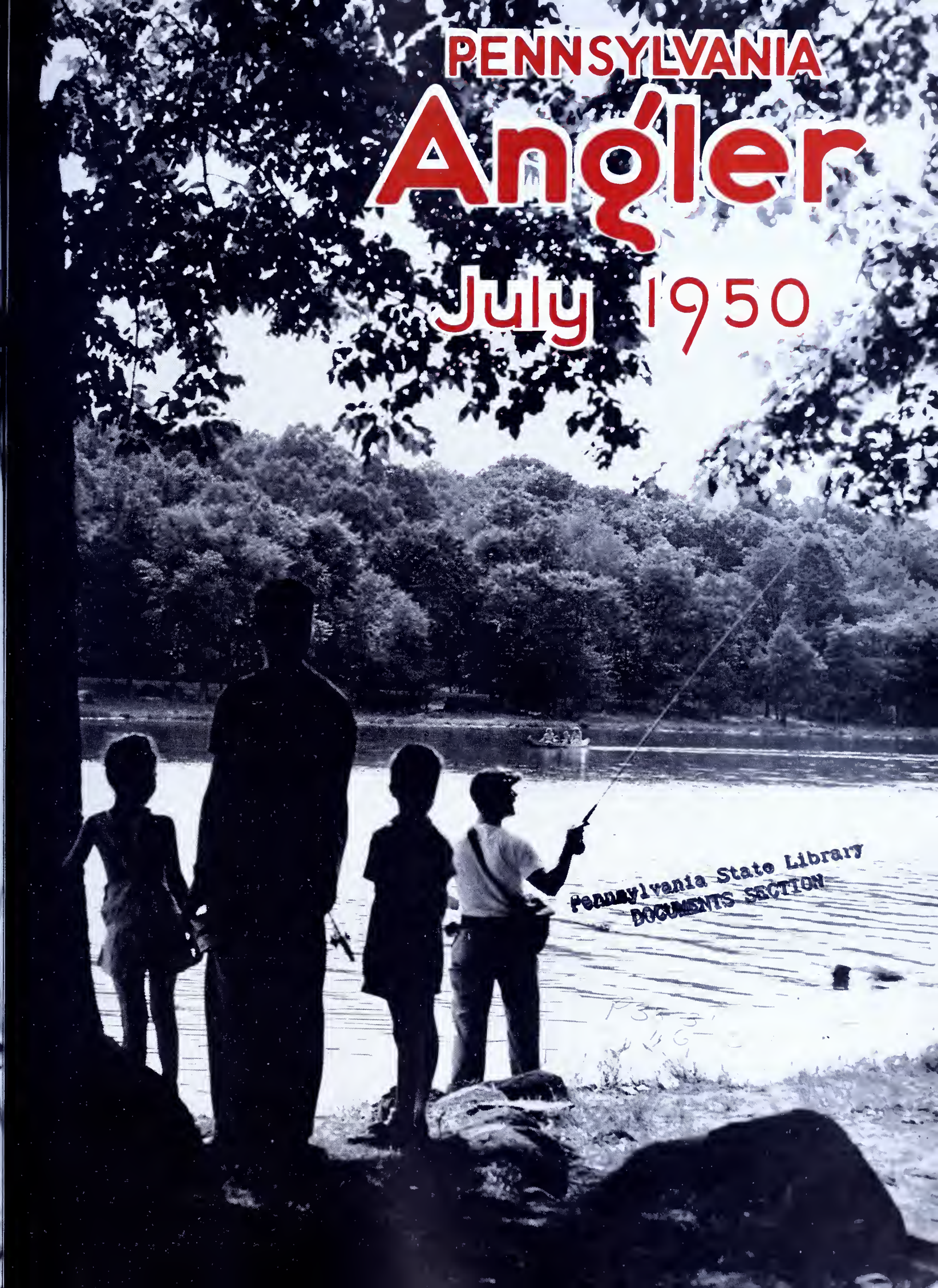
Communities along acid mine streams are excluded under the orders being issued. Up to the present time construction orders have been issued to 22 communities along the Susquehanna River, including Lock Haven on the West Branch, and to eight communities along the Juniata River and its tributaries, including Altoona.

Clean Streams Violators Cited

Charged with being in violation of the Clean Streams law, the cases of 18 coal mine operators have been referred to the Attorney General by the Sanitary Water Board for appropriate action, Dr. Norris W. Vaux, Health Secretary and Board Chairman, announced. A total of 24 violators were found in the latest investigation made during the immediate past by the Health Department Bureau of Engineering, in which a total of 98 operations were covered, 71 of which were operating in accordance with the provisions of their permits. Six of the violators were found to be discharging acid mine water to the streams in violation of a condition in their permit and have been notified by Dr. Vaux that they are to notify the Engineering Bureau within 10 days of the receipt of the notice the steps they have taken or will take to prevent the violation. If this information is not received it will be recommended to the Board that their permits be revoked.

PENNSYLVANIA Angler

July 1950



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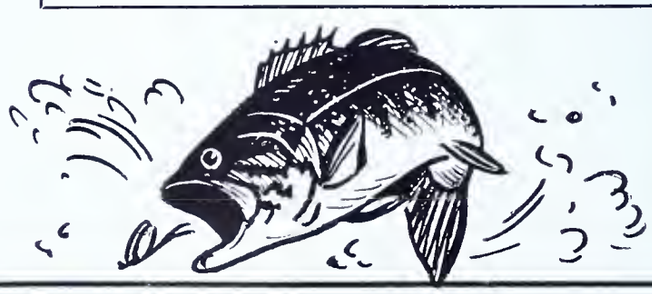

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
FISH COMMISSION
HARRISBURG, PA.

The Angler

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The Cover . . .

by James Balog and was taken at Perkiomen Lake near Green Lane, Pa. The scene is reminiscent of many Pennsylvania vacation spots.

Fish and Wildlife Need Our Assistance

By Bill Walsh

Almost all of the 16 million Americans who fish and hunt are deeply concerned about the future of those sports. Loud cries from every quarter of the nation are calling for a greater abundance of game animals and fish and hundred of theories to bring this abundance about are advanced each year by the wildlife managers and by the sportsmen. And there is very little agreement between many of the ideas. Everyone seems to be for conservation—as long as someone else accomplishes it.

Even though the nationwide movement for conservation is stronger than it was a number of years ago, it is apparent that it is still lacking in that type of "push" and vitality which will make it a success.

Probably the greatest vacuum which must be filled in the sporting world is in the attitude of the average sportsman concerning his favorite pastime afield. Most of us must confess that while we desire more game and more fish, there is very little that we have personally done to accomplish our objectives.

For example, in Erie County less than 20 per cent of the fishing and hunting license purchasers are members of the Erie County Sportsman's League, the only organized sportsman's club in the area engaged in a program of stocking pheasants, rabbits, and fish.

It is estimated that if every hunter and fisherman joined his area sportsmen's organization, that about four times as many rabbits could be stocked and about three times as many pheasants would be available for fall shooting.

In addition, many of the important land improvement measures which are needed to provide food and cover for game animals and fish could be carried out. Most of these methods are easy to put into effect but they require expensive labor to carry them out. It has been pretty well proven that the sportsmen do not intend to provide the labor with their own muscles, so it is only fair to ask them to provide it with their money.

This extra money in the interest of game and fish abundance can properly be considered a part of the sportsmen's equipment. In 1949, hunters and fishermen spent almost six billion, yes billion, dollars to pursue their sports. If every sportsman spent an extra dollar on behalf of his sport, this would only be about 16 million dollars and a small percentage of the total spent for guns, shells, rods, reels, licenses, etc.

It is also reasonable to expect that as more and more hunters take to the field and more fishermen crowd the streams that increases in hunting and fishing license dollars will be asked to keep even with the demand.

So let us all give more serious thought to the things that we can personally do to improve hunting and fishing conditions. Admitting that the present day sportsman is more interested in the enjoyment of being out of doors than in the actual bagging of game, there is nevertheless, no fun in coming home empty handed time after time. On the other hand, on those days when hunting and fishing is good there is no point in bringing home more than we can use.

Many sportsmen impose rules on themselves which are more stringent than the state's bag limits, and take home one less than the limit when that amount is adequate for their dinner table needs. However, let's all resolved to do something during the coming years to preserve the sports for the boys who are growing up around us.

Ecological Sense or Nonsense (V)

By Alvin (Bus) Grove

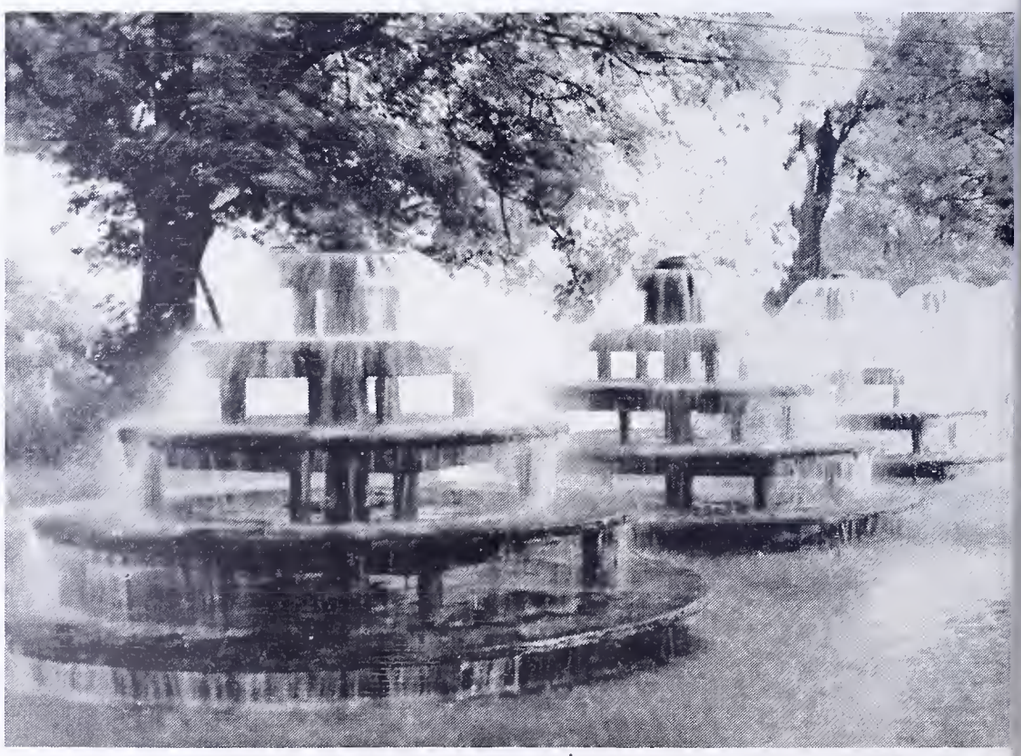
THERE are among fishermen some who are of the honest opinion that fishing now is as good as it has ever been. The possible exception to this opinion may be that the hatcheries should raise and stock into our waters more fish, and more trout in particular. Another segment of the fishing population is convinced that fishing is a thing of the past and there are no fish to be caught except the few that are stocked. These fishermen either have sold or are about to sell their tackle and take up golf. However, a third group of anglers is sometimes heard from, and in my opinion it is this group in which there lies real hope for the future of fishing. As a group they are not fatalistic, but they do feel that in many instances fishing is not as good now as it once was. On the other hand they can name a stream or two which are considerably better now than they were ten or fifteen years ago. As a group they are not particularly vociferous and are often not heard from for long periods of time. In general they are not fish hogs, but neither do they put back every fish that they catch. They are essentially good fishermen, good sportsmen, and good citizens, enjoying fishing as a sport and not as a substitute for beefsteak or lamb chops. They are usually sociable, considerate, and good fellows. Of course, some hide within this group and give lip service to it but are really not members in good standing. It is the members of this third group who are sufficiently interested in their sport to try to improve it, not only for themselves but for their children as well. It is this part of the fishing population who ask, "How can we improve our fishing?"

To some anglers the term improve means more fish; to others it may mean larger fish, and still to others fish in streams that do not now have a fish population. As a result the answer is not easy, and perhaps a program of improvement that leads to more fish will not at the same time provide larger fish nor in more streams. However, it is not to difficult to consider methods by which one or more of these improvements may be undertaken.

Men interested in research in fish and fisheries summarize the methods of improvement into four categories—namely, Introduction, Propagation, Protection, and Stream Improvement.

Introduction means to put fish into water in which they do not now exist. This may in the foreseeable future be a method that will be considered in repopulating certain of our streams now involved in our Pure Stream Project. However, introduction may involve only the placing of bass in water previously thought of as trout water, or it may actually involve only the establishing of another species of trout, for example rainbows into water already holding brown or brook trout. The brook trout of course is the native of Pennsylvania streams, and both browns and rainbows are introductions. There is little doubt that certain introductions have been very beneficial and have provided improved fishing. Much brown trout water is not suitable for brook trout, and without the planting of brown trout some of our present trout water would be barren. The stocking of bass and pan fish into new ponds has in the past and may in the future improve our fishing. Some introductions have not been successful and were ill-conceived, either by the "Powers that be" or by the lowly fisherman himself. The emptying into the lakes of the contents of bait buckets that include live yellow perch has posed a problem, and although not quite so serious in Pennsylvania, it has been or will become disastrous in several lakes in New York State. The value of the introduction of chain pickerel into a mountain pond previously occupied by brook trout in Centre County is questionable. Several years ago two large brown trout were placed in a spring in Cumberland County, which previously was inhabited only by brook trout. The browns (18-20 inches in length) a cannabalistic enough to eliminate man of the smaller brook trout rathe quickly, and this they have done a parently. Obviously introduction worthwhile, but it may be dangerou and deserves serious consideratio before being undertaken. Its possib value though can be assayed when is remembered that such famous tro rivers as the Manistee, Au Sable, ar Pere Marquette in Michigan are sy thetics, insofar at least that trout the is an introduction.

Propagation has occupied the fir place in the minds of fishermen durir the past twenty or thirty years. Not a agree entirely with the program, b most agree that it is the only appare method by which large numbers trout or other fish can be propagat to be placed in a selected stream. T business of propagation has becon big business, and a large share of t fisherman's dollar goes into it. T science of propagation has advanc much more rapidly than stream s ence, and today we understand mu better the needs of trout in a hatche pond than in a natural stream e vironment. As a matter of fact t raising of trout is much better unde stood than their stocking, and in ma instances where and when to stock a serious problem. Arthur Carhart, a recent article, calls the hatche trout a gold plated trout. His inform tion is startling and not without co



Water used in propagation must be properly aerated. Supply, temperature, degree of puri and oxygen content are several of the important factors which must be considered in selectin hatching locations.

s erable foundation. He states, for eample, that only a 25% return re-sits from stocked fish, that is to say, f ir trout are stocked and one is cught. He further estimates that an eght inch trout may cost thirty cents, ad if so, the one out of four actually creeled by the fisherman costs $1.20. Cn you imagine fishermen who catch sch trout and feed them to the cat at hme? Within the past month I heard a fisherman claim he had a poor eening's fishing on a local stream, creeling only two trout, one about even and the other fourteen inches. Then he took them home, there was to little to bother to clean and cook, ad so he fed them to the cat. At the etimated cost of $1.50 per pound he spplied his cat with a $3.00 blue plate secial.

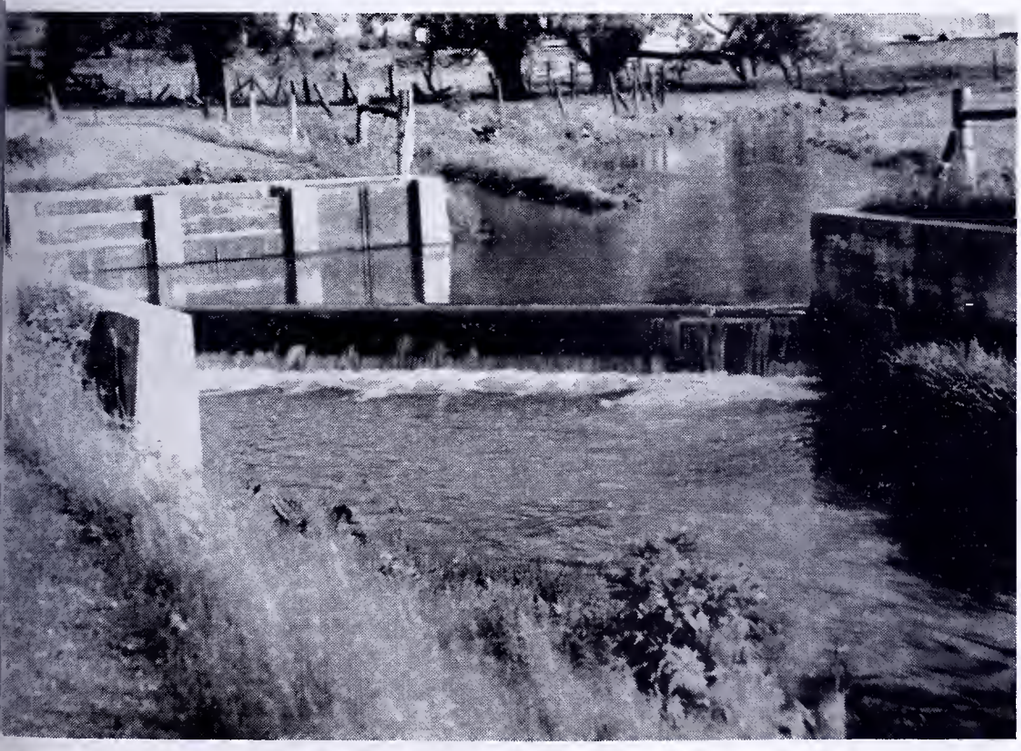
The rights of individuals are to be rspected and protected. After all the fherman caught the trout and so he culd do whatever he wanted to with tem. He also purchased a 1950 li-cnse which permits him to do just hat he did, but in spite of all this it i difficult to see and understand the ct-trout relationship. The cost of the lense in this case paid for the trout hich were creeled, but if it is to be it solely on a dollar and cents ex-cange, then this fisherman has taken ls money's worth for this year and ould put his rod away for the season. Oviously this is not the answer, but e fisherman who kills trout and then eds them to the cat is in about the me category as the hunter who de-berately kills a hen pheasant and aves it to rot in the weeds or shoots deer only to find it too difficult to carry out and abandons it to the buzzards and ants. Some fishermen kill every legal trout that they catch, and they do it deliberately with every intention of taking home as big a basket as possible. Some fishermen must have a limit catch to show to the neighbors, and others keep lists to indicate their prowess. Early this spring, before the season opened, one fisherman showed me his 1949 list of 250 trout, all killed and duly recorded.

Catfish have been introduced into this pond. With a minimum of management much fun-fishing could be provided here. Notice that the stream flowing into the head of the pond has silted in at least a third of it and that cat-tails and several other aquatic plants are now living in this mud flat. Many of the small ponds built in Pennsylvania have become silt catchers.

I cannot avoid the conclusion that some fishermen do such things in total ignorance of the problems of fishing and the cost. It is hoped that the insistence of a right will not cause it to be lost. The idea reminds me of a story a fishing crony told me several weeks ago. We had been fishing close together, and when it was too dark to see our flies on the water, we reeled in and stood along the bank talking. He related an experience that he and several other men had had on opening day. At a place called the Whirl Hole a half dozen or so men were fishing from the bank when from somewhere upstream there appeared a fisherman wading the middle of the creek, right into the hole with the water near his boot tops. The comments from the bank fishermen can be imagined, but the wader retorted that he could wade where and when he pleased. Now no one, I am sure, denies this although sometimes we wish such people would wade in over their heads. After the reply one fisherman from the bank threw a large rock into the water, near the wader's line, and immediately a howl of protest issued from the wader, about spoiling his fishing. The rock thrower said he was sorry but he could throw rocks into the stream wherever and whenever he pleased. The idea is so obvious that the story seems trite, but there is little doubt that the expression of an individual right may at times not only be dangerous but certainly is not to be expressed at the expense of the rights of others.

In 1943 Gordon L. Trembley reported that in 1939, 2130 tagged trout

(*Turn to page* 20)



Several large springs supply the water for this hatchery. Locations where sufficient pure, cold water is available are not too numerous and impose considerable limitations on possible hatchery sites.

Conservation Means Human Resources Too!

By Thad A. Bukowski

FOR many years now we have practiced conservation in nature. We have tried to prevent forest fires. We have tried to keep the soil from eroding to the sea. We have tried for a number of years recently to provide adequate food and cover for our game in order that it may live, flourish, and replenish itself in our game lands. Just recently too, our greatest conservation measure has been our governor's attempt to clean the streams of our Commonwealth in order that pure water may result, and we may not only have better recreational activity such as fishing, swimming and outdoor sports of all sorts, but also that all the citizens may get a more adequate supply of a God-given commodity in the way in which they should get it—as fresh as possible.

But conservation should reach out farther than that. In fact, it is reaching out farther than that, and we should all familiarize ourselves better with its new aspect which directly and indirectly concerns itself more and more with the human being himself.

For years we have been doing an excellent job in the conservational field, to reiterate, in trying to prevent waste of any kind. In the human field we have been apprehending arsonists who periodically burn the forests, we have been apprehending dynamiters who wilfully killed fish, we have been apprehending poachers who have shot game out of season; in other words we have been trying to prevent wrongdoers from doing wrong anywhere in the field of nature. Our program of preventive measures has been especially successful and at the present time we are looking forward to an era in which we expect greater caution, too, among all careless individuals. However, we must do better, more adequate work along the line of establishing correct attitudes among those of our coming generation who in future years will inherit the outdoors and who will spend much of their time in our forests, parks, and along our streams and lakes.

It is definitely a fact that we learn by imitation; in other words we learn through the experiences of our environment. It is also an established fact that we learn most of what we keep with us in the line of character and moral integrity in our lives through those innumerable teachings which come incidentally and coincidentally from the family. The family unit from time immemorial has been the most significant unit in keeping our nation strong and all of us healthy in our outlook upon life. It is important, therefore, that the family unit contribute a great amount of correct teaching even in the conservational field.

How does this concern for the family unit and what it does have anything to do with the outdoors? Well, let's take the problem of learning to hunt and to fish. Generally speaking, practically all of us as sportsmen have learned this very satisfying leisure time activity from someone older than ourselves right in the family. And most of the time probably from our fathers. Also, the chief reason why we are avid sportsmen now is in great part due to the fact that the learning experience was a pleasure while we went through it. It was not a task, nor something distasteful that had to be done.

Generally speaking, any youngster in the family will be tickled "literally to death" to go on his first few fishing or hunting experiences with his dad. It is tremendously important for a father, therefore, to arouse a spirit of companionship between himself and his son and include him on his sporting ventures at least a nominal number of times each year in order that he may have this feeling of pleasure. Not doing so may make the son feel unwanted and cause him to receive tremendous psychological shock which in later years may make him exactly the type of individual who conservationis have the greatest trouble with, b cause in effect he is hitting back what his father liked but did not pr vide for him—the enjoyment of bo this needed companioship and t pleasure of the outdoors. The reas the outdoors may become distastef to him and make of him a problem m be due to the simple fact that it alwa associates him with his father and realizes that he lost his father's frien ship to his father's liking for the ou doors to the extent that he didn't ta his son out with him.

This is the son's manner or reaso ing:

1. I love my father
2. He loves fishing and hunting b ter than me because he prefe them to being bothered with r
3. Therefore, I hate anything th takes him away from me.

This may sound a bit far-fetched b in the subconscious mind of each i dividual such thoughts exist and m later cause trouble relating to an social behavior and anti-sportsma ship.

Now to get back to our original d cussion and put it in the form of question. How can a father teach l son the true love of the outdoors a make of him the kind of future spor man that the Commonwealth and t country, for that matter, needs?

First, and foremost, there must that definite spirit of companionship b tween father and son which will enal each experience to begin in the rig

We must teach our children in such a way that when they venture into the outdoors shall be safe in the knowledge that what they do will be right for conservation and themselve

ıanner. The father should evidence a oadmindedness and permit a sense equality to exist between himself d his son. Most of the teaching out the outdoors should also be of te incidental type. When questions e asked, they should be answered the most interesting possible man- r. When the son misses observing mething particularly interesting or rthwhile his attention should be lled to it. If it is an unusual ecimen of wildlife, a bird, animal, or e like, the observation can be made , with often emphasis placed on the nservational aspect. How better can e son learn this association of wild- e to conservation measures? In this anner, by precept or example rather an by command can the idea not ly of conservation but love of the tdoors be installed.

When the boy begins to learn how fish he should be permitted to learn himself after the first simple ex- anations or instructions are given. ost of the time his immediate learn- g by observation of his father or ners will be sufficient to get him arted. The worst possible thing that father could do is to continually tell s son what to do. Tell him where to h, tell him what bait to use, tell him w to throw in line, tell him when yank the line. This repeated telling d criticism is the quickest way in aking him not only disinterested but tually antagonistic towards anything hich even resembles the outdoors. e see, therefore, a second way here, which a child can be led to a dis- e of the outdoors.

In his fishing endeavors with his son ere should be some attempt at aking it more than just a journey. A lunch which both of them can share, man to man, is a wonderful way by which a child gains the type of ego recognition that any happy and healthy youngster needs. Every father is a hero in his son's eyes. The more time he spends on his boy in friendly companionship, the greater hero he will be. Every boy needs this element of hero worship in his youth but too often few of us care to provide situations for this for our children though in its essence at the time they are youngsters it is the best thing that we could ever provide for them, for wholesome spiritual and emotional growth.

I can remember my early days as a boy. Having been fortunate enough to have the type of a father who provided my brother and me with this significant experience, I can see in retrospect how badly it is needed by every boy. Childhood days are the days when the greatest amount is learned because it is all so new and it is important to learn it correctly, with wholesome and optimistic attitudes towards life. In later life impressions are not so vivid because the world no longer is so large, so new, so amazing, and probably for too many who have already set a rigid pattern of living, not nearly so interesting.

Now, why, we might ask ourselves should we provide this type of recreational learning for our children:

1. Because through this warm human companionship we provide our children with the affection that all human beings need to become happy adults.

2. Because we teach them something which can't be as readily taught elsewhere, nor under as exceptionally wholesome conditions.

3. Because correct teaching within the family unit is the best preventive medicine that we can ever provide in the conservational field. If the child learns correctly from youth because of satisfying experiences with his father or elders within the family, he is much less apt to be any type of a problem to the conservationist in later years. Preventive medicine is not so much right when we punish the wrongdoer for doing wrong but in going further to the situation in which we provide adequate opportunities to interest more youngsters in doing right.

Let's conserve our human resource, then, by providing adequate, wholesome and emotionally satisfying experiences for our children in nature so that they may grow with the correct attitudes to continue the work which so many concerned people have already begun. For it is imperative that we of our generation not only leave the heritage of excellent natural resources among our wildlife, and excellent means of conservation for our land, but that we also leave among our children the correct knowledge and attitudes which will have them knowing how to get the best out of their lives in happiness and enjoyment of living, besides continuing that which we passed on to them. It is important for us to individually teach them in our families all those simple elements of good wholesome living that are so badly needed so that when they venture into the treasure chest of the outdoors we shall be safe in the knowledge that what they will do will be right.

In closing we must take on a few added words of warning. Society is full of problem cases now, many of them would not have existed if they would have had more satisfying human emotional experiences as between parent and child. It is environment in all its ramifications which may cause emotional shocks in life resulting in anti-social action. It is up to us all therefore, to provide wholesome environments for our children in order to insure against this.

What then, could be more wholesome than the outdoors, properly presented?

Learning by association with others is pleasanter and more worthwhile than that which results from continual direction.

Cut Carp for Catfish Bait

A catfish bait that is becoming increasingly popular is the so-called cut or chunk bait. It is made by filleting carp, cutting the fillets into strips two to three inches long and about an inch wide.

The carp strips are put into a glass jar and let stand two or three days in cool weather or a few hours in hot weather.

Catfish find this bait irresistible in any point of decomposition, from slightly "sour" to just short of dead ripe.

Summer Resort Bass

By Don Winters

FISHERMEN familiar with the hard fished, popular resort lakes of Western Pennsylvania, realize that we deal with a mighty temperamental breed of bass. Unlike his more gullible brothers of the wilderness areas, our bass have acquired big city ways. He learns early in life that it pays to keep his big mouth shut a good part of the time (especially between Decoration and Labor days), and that a diving board offers just as fine protection and shade as the more conventional tree top or under water stump. He also learns that pretty girls in bathing suits can churn up quite a fuss in the water, but are to be trusted a lot further than the quiet characters that sit for hours out over fairly deep water in a row boat, and gently raise and lower toothsome minnows and soft shell crabs alongside the weed beds. As he gets along in years he may also discover the fact that the first two or three toboggans that come careening down the skidway of the popular water slide every day are apt to dislodge quite a few choice crustaceans and water bugs from the shaking piling. He grows fat and sassy in this hepped up element, contemptuous of ordinary fishing tactics, and usually a little cocky and careless. But by changing our own fishing technique slightly, we can beat these summer resort bass at their own game and put them in the frying pan just about as easy as we do their shy back country brothers.

Deacon and his resort lake Bigmouth.

The two most popular lakes in this section as tourist spots, are Canadohta and Conneaut. Cabins and cottages are filled throughout the season, and the bass in these waters are fished over daily from the season's start until Labor Day. The bulk of the fishermen working these lakes with live bait and plug seem to be middle of the day anglers. Mid-morning until supper time, a steady parade of lures pass through all fishable pockets and channels. Needless to say, results are usually very poor at this time, and usually by five or six o'clock in the afternoon the angler is low in spirits and long on sunburn, so he winds 'er up for the day. He usually quits a bit too soon.

As the sun begins to set and the shadows begin to lengthen, a change comes over the resort lake. Bathers begin to leave the beach and the diving boards, and motor boats that have roared all day long up and down the deep channels are suddenly stilled, and a temporary quiet descends on even the most lively of these resorts. Let's go fishing!

As the twilight begins to deepen, the ever present frogs start their nightly chorus and the best hour of the day is at hand for the bass fisherman. But time is short, soon the frogs will be drowned out by the music of the dance band on the pavilion across the lake, and the motor boat boys will have rested a bit and once more will rip the channels of the lake apart with their spotlight-equipped cruisers, so let's get busy!

This hour of twilight fishing generally calls for top water lures, either on the casting rod or the longer fly rod. Bass move into the shallows at this time of day, and shore lines and pad and weed clumps should be worked thoroughly. The popular medium sized surface plugs in dark colors are fine for this work, as well as large cork and hair fly rod bugs. Both bait and fly rods take fish readily and there is little preference. My younger brother, the ground covering, dead serious Deacon, swears by a jet black surface noise maker of the Jitter-Bug or Injured Minnow type, while Bill Jones, a fishing side kick of mine, is partial to an out size, home made deer hair bass bug, roughly about as big as a yearling black duck! Both these boys take bass in numbers during this magic twilight hour, so use the method that suits you best.

The water is generally at its calmest stage at this time of day, unruffled,

A big resort lake bass.

black and glassy, and occupied b plenty of feeding bass. Fisherme should work lures slowly, with fr quent stops and pauses in the retriev The boat or canoe should be no clos than easy casting distance to the sho line or weed bed edge. Work su spots S-L-O-W-L-Y, and carefully, b be ready, just when you least expe it, the placid surface will erupt like t bay at Bikini, and you'll be a migh busy boy for the next few minutes.

The Deacon calls this surface teasin twilight angling, "heart failure fis ing," and advises the chap with t weak ticker not to expose himself many of these smashing surface strike The surface strike at twilight is a thr never to be forgotten. The plug or f rod lure works its way back slow across the dark water, you hear strai of music from someone's radio in nearby cottage, your mind stra briefly from the business at han maybe you're wondering if the insu ance game will pick up, or if the WHAMMO! The heck with ever thing, brother! You're fast to one those big, hefty summer resort ba and he doesn't want to leave! I planned on staying on for the whc season and it's up to you to change h mind, so get at it!

This wonderful twilight hour worth the rest of the day, as far taking fish in resort waters, the ne best time in my estimation, is early the morning before the camps and cc tages have come to life. At this time is possible to fish a lot of the close water, near the swimming areas, e Diving boards and pilings may produ

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libbles In The Night

By William Boyd

T WAS so dark one couldn't see his hand in front of his face. Doubt-s the thick-foliaged trees with their er-hanging branches had something do with the density of the darkness. so, there was no moon, and we were a valley close to the foothills of a untain.

The thick muck of the stream's shore s so deep and its suction so great thought of quicksands in spite of nself. We sank in muck to our knees l when we lifted a foot to take other forward step the pull of the k black muck almost separated us m our hip-length boots even though y were fastened securely to our ts.

t was an eerie experience, made bly so by other contributing fac-s. A big turtle, alarmed at our ad-ce, slid from the shore into the ter near us with a splash that was tling. In the woods through which had come to reach the stream a se on all-night forage tramped vily, and one naturally thought of d animals.

knew the stream which we had ted for a bit of night fishing but had miscalculated in the darkness l we were downstream a short dis-ce from where I usually crossed. re the water was deeper than above l much swifter. I wasn't any too py about the whole thing but I led as I heard Del utter an under-e "damn!" as water splashed over boot top.

Carl, and Del, and Bill and I were the expedition. The employment of ouple of the men made it difficult them to get away often for day-e fishing, so we planned night sport. l and I had fished this creek before l we knew it had bass in it. Catfish, , were numerous and the stream l all the appearances of being an ellent one for eels.

While two of us had flashlights, it s difficult to determine just where fish, although we had planned our ht operations for a rather deep pool a bend of the stream. We had to from the east shore because the st embankment was a steep one kly grown with underbrush to the ter's edge.

Bill and Del made the mistake of at-pting overhand casts, not realizing hes were so close behind them. h hung their nightcrawler-baited ks on the undergrowth. They had wade ashore and follow their lines h their hands until they located the ticular bushes to which they were ached.

Carl and I escaped this predicament by employing underhand casts and had the satisfaction of hearing our bait hit the water, but it was Del who had the first action.

"I have a strike!" he exclaimed about a minute after he had loosened his hook from the foliage. We heard the splashing and knew he had hooked his fish, whatever it was.

"One of you fellows with a flashlight give me a little illumination, will you?" Del asked. Carl was standing closest to him so he turned on his light and directed it toward Del.

"It's a 'cattie,'" explained Del. And then, as Carl's light strayed from him for a moment, "holy mackerel, he stung me!" howled Del. He had closed his hand on the needle-sharp side fins of the catfish and suffered a painful sting.

We shouted all sorts of useless directions to Del while laughing at his discomfort. He took it good-naturedly when he discovered his catch was a good-sized "cattie" and succeeded in getting it into his creel without further damage to himself.

It was Del's turn to laugh a few minutes later when Bill, losing his balance as he made a cast in which his weight was shifted to one foot, causing it to sink suddenly into the muddy creek bottom, and making him stick his hand into the water to his shoulder to keep from falling into the stream.

By now our eyes were more accustomed to the darkness and we had gotten our bearings so we could fish with more confidence. At about the same time the catfish began feeding in earnest and all four of us were catching fish.

It was Del, somewhat uncomfortable from the wet foot he had suffered when he shipped water while negotiating the stream, who relieved the monotony of the catfish catching.

"Boy, oh boy!" he ejaculated, "I've really tied into something. This isn't a 'cattie,' or if it is it certainly is the great grandfather of all catfish in this creek. Golly, I can scarcely move him!"

"Don't let him throw you," advised Bill, and Carl offered a bit of advice that wasn't in the least helpful to the busy Del.

"Bring that net of yours, will you Boyd?" Del called to me. "I know darn well I can't get this, whatever it is, out of the water. I'm praying now that he doesn't break my leader, for he sure is tearing around."

By this time I had reached Del's side with my net in one hand and a flashlight in the other. Del lifted hard until his rod was bent almost double and in the beam of the flashlight I saw the head of a big eel at the end of Del's leader.

After a half dozen attempts I succeeded in getting the net under the eel's tail and lifted until his squirming length was in the fine-meshed net. I clamped the net shut under the ring to keep the eel from working out of it, and walked ashore, Del following because his hook was in the landing net with the eel.

"What in heck are we going to do with him?" inquired Del. We were ashore now and the beam of the flashlight revealed a snakelike creature as thick as one's wrist.

"I have a burlap sack in the back of my car," I advised Del. "If you want to take this eel home with you go back to the car and get that sack."

Meanwhile I had cut Del's leader at the place where it protruded from my landing net and had wrapped a bit of string around the top of the net, securely confining the eel.

In a remarkably short while Del was back with the burlap sack and we stuck the net down into the sack and untied the string, permitting the eel to slide out of the net into the sack. Then we quickly closed the open end of the sack and tied it with the string which had first been used on the net.

"My mother-in-law will enjoy that eel," said Del. "She says there are no fish like eels for eating, and this one is certainly large enough to satisfy her appetite."

It was a still, warm night and what mosquitos there were we discouraged from feeding on us by liberal applications to our faces, necks, and hands of a rather vile-smelling "bug dope."

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Old covered bridge near our night-fishing spot.

Fly Fishing For Black Bass

By Don Shiner

EVER CATCH bronze-backs using a fly rod and surface bug? If you have, you already know of this delightful sport and regard it as a productive way of creeling bass. To those anglers who have not touched upon this bug game, they are missing one of the most pleasing games and are not deriving the full pleasure which angling our fresh water streams in Pennsylvania have to offer.

Fly fishing for bass is a game to be compared to dry fly angling for trout. Using surface bugs, the angler is able to see the bronze battlers rise to the lure and greedily strike with determination. It is gaining momentum each year and will eventually rank on the level with the ever popular casting rod and plug lures.

It is quite natural for the trout dry fly enthusiast to follow this bug game since they are very closely related. The equipment is primarily the same, however, the bugs are larger and more air resistant, hence, heavier equipment is desirable.

A rod, split bamboo preferred by the majority, should be 9 or 9½ feet in length and around the neighborhood of 5 ounces. This rod, of course, requires a line to bring out its power, and size D or C level, or HDH, HCH, HCG tapered line is quite satisfactory. A tapered line seems to add greater ease in handling the bug, however, any level line in the above size will work satisfactorily. The line is required to float and unless it does rest on the surface, the bug can not be manipulated properly nor can the line be picked up readily for another cast, or hook set efficiently in a striking bass. Therefore some sort of line dressing should be used frequently. Ordinary car simonize or wax will work satisfactorily if no other dressing is available or if by chance the dressing material has been one of those items which invariably are forgotten.

Either a single action or an automatic reel can be used. An automatic quickly takes up the slack line between long and short casts and helps when battling an energetic bronzeback. However, either type reel can be used equally well.

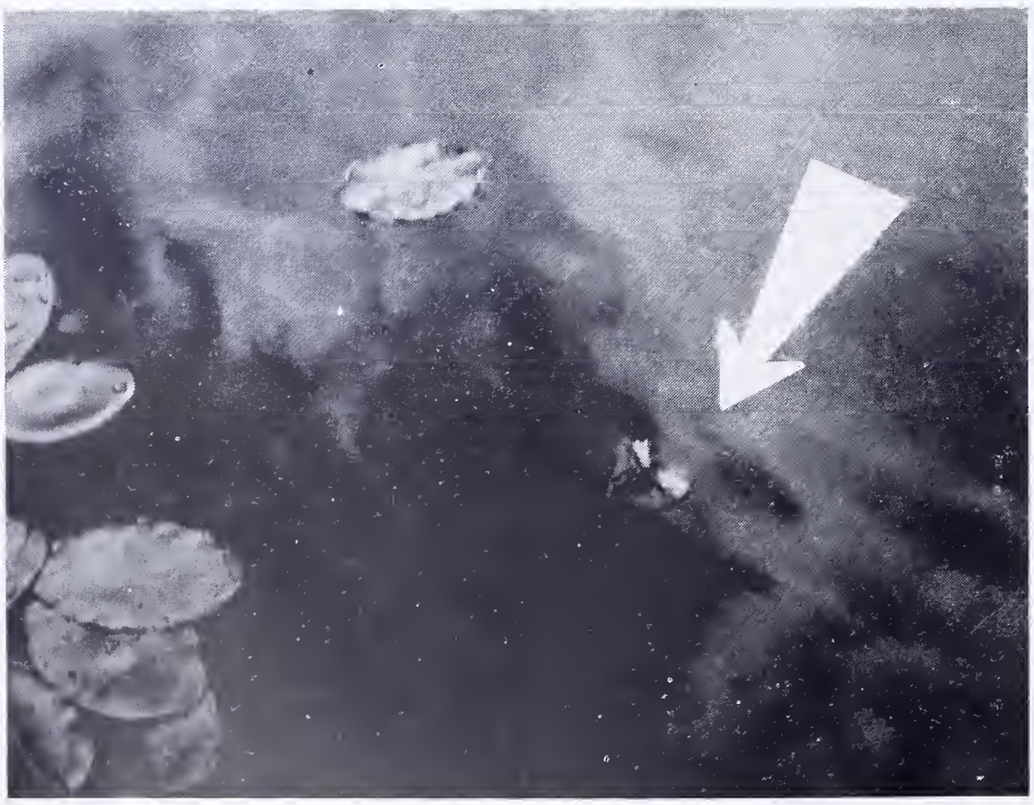
Leaders are another important factor in bugging. Bass are not as conscious or shy of lines as are trout, but a leader 7½ feet in length or longer erases any suspicion the bass may acquire that the line and bug are connected. These leaders should be of the tapered variety, tapering to about IX. These, as in dry fly angling, should sink beneath the water to remove any tell tale shadow which appears with a floating leader.

This constitutes the equipment, outside of the lures themselves, and it can be seen that outside of it being coarser tackle, it is identically the same as used for the aristocratic trout.

Fly fishing for bass often produces some exceptionally fine specimens. This bass was caught by William (Bill) Levan of Nescopeck, measuring nearly twenty inches.

There is a wide variety of floating bug lures, some representing crippled minnows, frogs, mice, large beetles, moths and, of course, the ever popular and famed popping bugs. All are good lures and a variety of each should be carried. This does not mean stocking oneself with such a host of bug lures that it causes round shoulders to carry them, but one or two in each type in various colors is sufficient. Bass are far less selective in their feeding as are trout, and most any edible creature which they can master is placed on their menu. The one most important factor in the success of lures is that each should be fished naturally. When using a mouse lure, fish it like a live swimming mouse, not like a butterfly thrashing around on the water.

Remember that 70% of the water of a lake does not contain any fish. Also one place where fish are at one season of the year, at one day, or at one water temperature may have none of the same fish when time and condition changes. As an example, bass in the spring and early summer, when the temperature of the water is around 65°, will invariably be found in shallow water, close to the shore lines, around weed beds, water lilies and submerged logs. As the water increases in temperature to about 70° in mid summer, these same bass leave the shallow water and locate themselves in fifteen to twenty feet of water along rock ledges and sand bars. They will of course move shoreward during the evening and night while the scorching rays of the sun is hidden. So the best bug lures will not take bass in the shallows unless the bass are located there. However, a spring entering one part of the lake or stream generally finds the bass congregating at these places during the warm months. I recall an experience on a



Note the bass bug near the lily pads. This is an ideal location for bass when they are surface feeding.

Carry an assortment of 'hair' bugs and rest sured that you can really catch bass!

ke in eastern Pennsylvania, where cating a spring finally made the day success. I arrived quite early in the orning and the sun was just peaking forehead over the tree tops as I eased my line and tied a spent-wing air bug to the leader. I had paddled e boat rather close to the shoreline d began casting the bug in the ckets of the lily pads.

I had made numerous casts, allowed e bug to remain motionless for a ne and then gave it a few short itches and a pause again. No action uld be provoked. An hour later und me still casting along the lily ds, and I had changed from a solid llow hair bug to a stripped hair bug, it was fishless and had absolutely no ses for my efforts. It was an ideal orning for bass activity, however, I gan to ponder whether it was just e of those 'off' days where upon eeting a stranger they generally re- ark that the bass were practically mping at everything yesterday or e day before. Somehow, I never em to hit those days and after awhile seems strange that one always hap- ns to be a day too late or too early. his, however, didn't help the reason r my not having any action that orning.

I continued to move round the lake, ose to the shoreline, taking advan- ge of every weed bed, lily pad pocket, bmerged log and other likely bass unts. It was nearing noon and the n was quite high and sending down scorching rays.

Bass activity declines rapidly as the n's rays strike the surface of the ater.

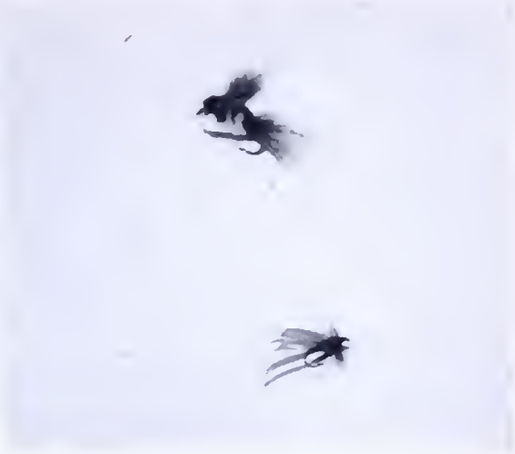
I was ready to go back to the cot- ge and await the evening when sud- enly farther up the lake I heard a unding smack—a possible bass jump- g. It is needless to say that it was usic to my ears and I hurriedly oved the boat in the direction from hich it came.

Before I had moved the boat too r another splash was evident near the shore in among a cluster of lily pads. Upon getting the boat into position I quickly cast the bug (spent-wing hair bug, dark yellow in color) and hardly had it landed in the water when a largemouth bass boiled to the surface and sucked in the bug. I raised the rod, set the hook and was fast to a good bronzeback. It was the stimuli needed. Landing him, I laid him on the floor of the boat, admired his deep green color and then dropped him back over the side of the boat as I prepared to resume casting. The second cast brought a response and was the largest and only specimen that I kept of the ten I had taken and returned to the water that day.

I had fished nearly five hours that morning and received not one strike until I had come across this one location where the bass were active. In searching for an answer, my eyes viewed the shore line and I noticed a small trickling of water—a spring, entering the lake. The bass had congregated here to be in the cool water and being away from the warm water were vigorated by the cool spring. I constantly keep on the alert for springs entrances and confine my efforts to such locations during the heat of the day.

Colors of the various lures do not have too much effect upon their success. The old rule of dark lures on bright days and bright lures on dull days can be used as a guide, however, it doesn't always hold true. Yellow, white, black, red and green, as well as the greys and browns in solid colors or various combinations are all good colors for surface bugs. One prime factor of interest is that bass see only the bug from an underneath view so the colors on the belly or underside of the bug is the most important place unless the lure is of the type which does not land top side upright.

These bugs do not need to be cast too great a distance. Forty feet is far enough, and many times the bug is more successful if cast even shorter distances. This is partly due to the fact that the angler can manipulate the lure far better on a shorter line.



The new lure—A hair bug with a wet fly attached. A new 'wonder lure.'

Often times when using small surface bugs, bluegill sunfish, calico bass and even rock bass often strike at the bug. One of the strangest arrangements for using these small pan fish to help the angler catch bass was related to me by a friend who confines his entire fishing pastime in the pursuit of bass. I was skeptical at first, but decided to try the 'stunt' and it is one of the strangest tricks I have ever used in bass fishing. The bug is attached to the leader in the customary way, however, either part of the leader is allowed to extend beyond the bug or a short 18 to 20 inch leader is tied to the leader in front of the bug. A small wet or dry fly, about a size 10, is attached to the dangling end of the leader. The user then begins to cast the ordinary way for bass. The bug should float but the dangling fly works best if it sinks slightly. After a few twitches of the bug, invariably a bluegill will strike at the trailing small fly. This can be told by the twitching of the bug. At this time the angler should set the hook and allow the "sunnie" to thrash

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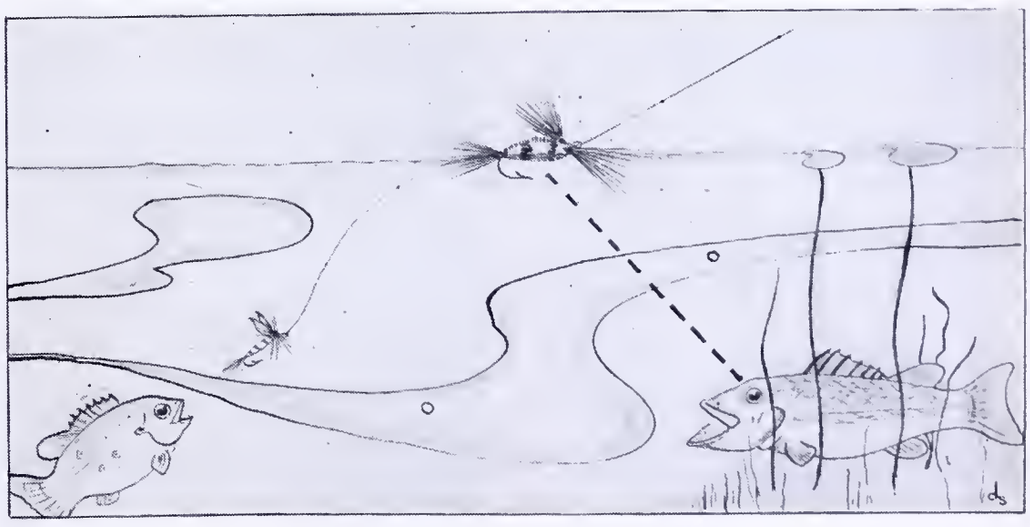


The new 'double barrel' lure.

Hunting For Your Fishing

By Jack Anderson

DID you ever fish in a stream which was more of a problem to get a line *into,* than a fish *out of?* It's an adventure that faced an unconventional angler who likes to mix hunting with his fishing.

We'll be telling you about that problem, later on. But first, let's tell you how this hunting-fishing game began.

Seems that during boyhood, fishing in eastern Pennsylvania was in a slump. Trout were stocked, but in trickles, and fingerlings the size of pencil stubs were dumped into open streams. Perkiomen Creek ice dams that came as regular as canal locks from Hosensack to Green Lane were split by floods, with tons of the fish feeding crows in the marshes and meadows of Perkiomen Valley. And jobs were scarce and people had time to dawdle along creek banks.

People then looked for meat for the wife and kiddies.

My buddy and I were in that age when sunfish had lost their thrill and we looked for something different.

"How comes nobody ever fishes down through there?" my buddy asked one day, and pointed over a deep-grassed meadow where Holsteins contentedly fed, to a dark lazy stream that looped itself around willows and tough grass tufts and vanished, to our boyhood hearts mysteriously, into a thick woodland.

"I dunno," was my slow, thoughtful reply, "guess everyone thinks it's too small up here. They catch all kinds of fish five miles down."

Then an idea touched fire to my boyhood enthusiasm.

"Let's fish it," I suggested.

One thing about kids—many things of the world are still new, still thrilling. If we adults could look forward to something different each day, how much more content, aggressively alert, we'd be. Back then, we were ready to step into a new adventure. Hurriedly we stepped into heavy boots, rigged poles, shouldered creels and strapped on worm cans.

It is a pleasant memory, the sun slanting warm against our faces, the winds warm and heavy with rich meadow smells with that faint dampness edging in from the creek. A day of leisure before us; a day to enjoy!

We didn't know what kind of fish to expect—if any. We stepped into the creek together, at a very brushy spot, where brush and briars hugged the banks and the water cut so sharply a great brown gash of earth glared underneath the sod. With the water lowly murmuring, gurgling only at some chance spurt across a jutting stone, we baited our hooks. Then, our first eager casts . . .

How thrilled we were at the quick, savage tugs! In our excitement we pulled too soon and missed our first several fish. Finally my buddy dragged in a fat, wriggling bluegill—eatin' size, the dark kind with deep red sides and big black head.

Before his battle was over, I set the hook into a whopping sucker . . . a fourteen incher, which, then, was a prized specimen. Why, our chatter raised the heads of those grazing Holsteins, so that their neck-bells shattered the quiet of that lazy summer's day!

The chatter should have frightened the fish, too; but there we stood, laughing, full of "We-e-es!" and "Boy-s-s!" and getting strikes as fast as our lines struck water.

Well, get back into your own straw hat days, take off your shoes and stockings and put a cornhusk cigarette on your lips—then you'll get the gay, satisfied feeling we had, that entire afternoon. In that meadow stretch we caught horned chubs (dace, I believe they're correctly called), shiners, redfins, grass pike, suckers, bluegills, punkinseeds, and despite sunlight and clear water, two catfish.

So that's how our idea to mix hu ing and fishing began. We called "exploring."

Your neighborhood has its pet fis ing holes, where everybody goes angle, year after year, the best fishi spots that because of pressure, yie few heavy catches. It's become a hal to head to these places, the same heading for your favorite eveni hangout.

Also near your neighborhoo quietly runs some forgotten strea And there lies the pond which noboo including owner, pays any attentio

Or how about the feeder strea which is too small for fishing? Or th stretch of stream or lake that's too f from a good road or too brushy?

Think . . . and you'll recall so place that comes into our classificati of Forgotten Places.

That's the idea of combining Hu ing and Fishing. *You* fish those F gotten Places.

Remember how we asked at the b ginning: Did you ever fish a strea which was more of a problem to ge *line into* than a fish *out of?*

Well, let me tell you about a clou spring day in the Poconos.

Ever feel spring coming in the P conos? . . . May be a cold day, sha as wolves' teeth even underne mackinaw or jacket. You have t heard peepers yet; snow still lies hemlock gullies and atop Big Poco There isn't a single glitter of green, n a solitary robin. Suddenly, out of n where, you hear a wind, caughing

Hunt for your fish—here's the reward.

ll evergreens and cracking through ple-stage hardwoods. Then the wind in. But it isn't sharp, cutting, raw. isn't winter. In a single, magical, onderful breath, it's spring. A breath at warms your heart, brings the old p leaping into your legs, makes you ant to go fishing.

It was that kind of day that I crossed orchard, that, if human, would have d hair to its knees, and started fish-g a feeder to a popular Pocono ream.

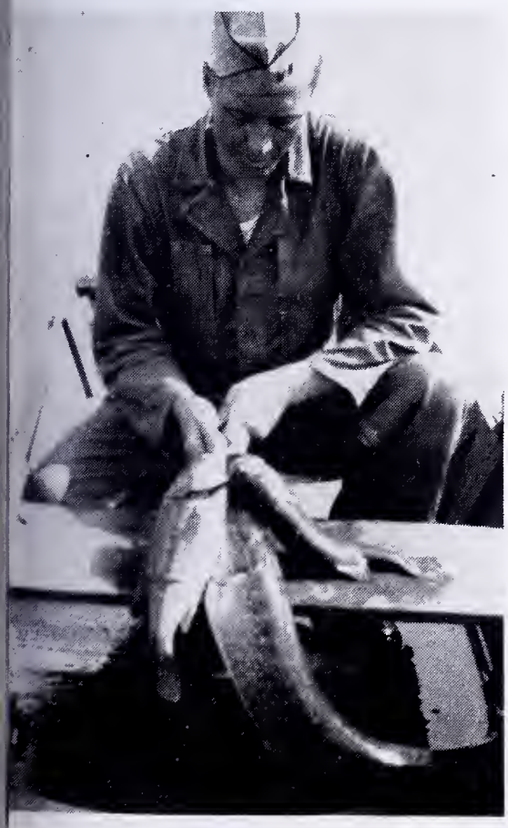
As usual when fishing tiny mountain reams, where you tangle constantly ith laurel, rhododendron, scrub oak, d assorted brush, I carried a tele-ope rod, and for bait, a can of "gar-en hackle."

This stream was a spring run, and I llowed it 15 feet without being able get a line between the long, over-pping grasses. It ran narrow, but eep and fast. You saw deer wakes in e grasses. At the crossing point of e of these wakes, I made my first st.

So quick was response, that it star-ed me. The trout snagged the worm om the top and whisked it under the anks, where I set the hook and pulled ut a fat-bellied native, a deep-red fel-w almost black on top. Guess he'd ave made the six inch mark, I dunno . . but after wetting my fingers, I udged him back to his home appar-ntly unhurt but much wiser. Then, rinning at the sport ahead, I rebaited nd worked my way through a sumac luster to another appealing hole.

This hole produced two natives, both too small . . . and then my first big surprise, a 10-inch brownie, which, I swiftly reasoned, had moved up from the parent stream.

A lunker like this is a real prize.



These came from a so-called "mud-hole."

That brownie, pals, is the moral of this yarn: I snagged five brownies that afternoon, nice, fat fellows, the kind with red spots and orange bellies and lots of scrap. Fishing, all afternoon, was entertaining, and the biggest problem was not finding fish, but finding a clean spot to drop in a line.

You find that kind of afternoon, when you mix hunting with your fishing.

And you also find the kind of afternoon we found in a swamp above the Pinchot Trail near White Haven, on Hayes Creek. Know of that swamp, Pocono fans? I invite you to try it. Two of us spent a cold, rainy afternoon on hands and knees in rhododendron as thick as jungle foliage. We caught no fish, but left a good slice of religion in that swamp.

Why don't you try this idea of "exploring"?

If you do, here's a sample equipment list: A short rod, perhaps a telescope if brush is exceedingly thick; a creel; worm can strapped to the belt; an assortment of flies both wet and dry; a few fly rod bass and pickerel lures; and hip boots or waders. Try to carry as large variety of baits as possible, because almost any specie of fish may be encountered.

And in fishing, change lures and methods often, because sometimes you'll be surprised at the nice fish you can drag from Forgotten Places.

You'll run into the unexpected, as sure as shootin'. Like the time a pal of mine caught a two-foot watersnake on a minnow lure. Or the time two of us caught a huge snapping turtle on a fly rod.

One of our most unusual experiences was while exploring a swampy stretch of a Bucks County stream. A heavy thunderstorm broke early in the day and afterward, we found ourselves fishing in a swiftly-rising, mud-choked stream. We were fishing with fly rods and minnows, hoping for pickerel. Our hopes were sinking when I suddenly got an idea and left the minnow settle to the bottom for a short time while I ate a sandwich.

Suddenly my line moved through the water, slowly at first, but with gathering speed, until finally there were heavy tugs on the rod. I set the hook into a good-sized fish, and about three minutes later, landed the first of many fat, fighting eels.

Believe me, catching eels with fly rod is sport . . . try it sometime. After the sport, you can have the eels. I've read about their fine taste, but give me trout, perch, or catfish, any time.

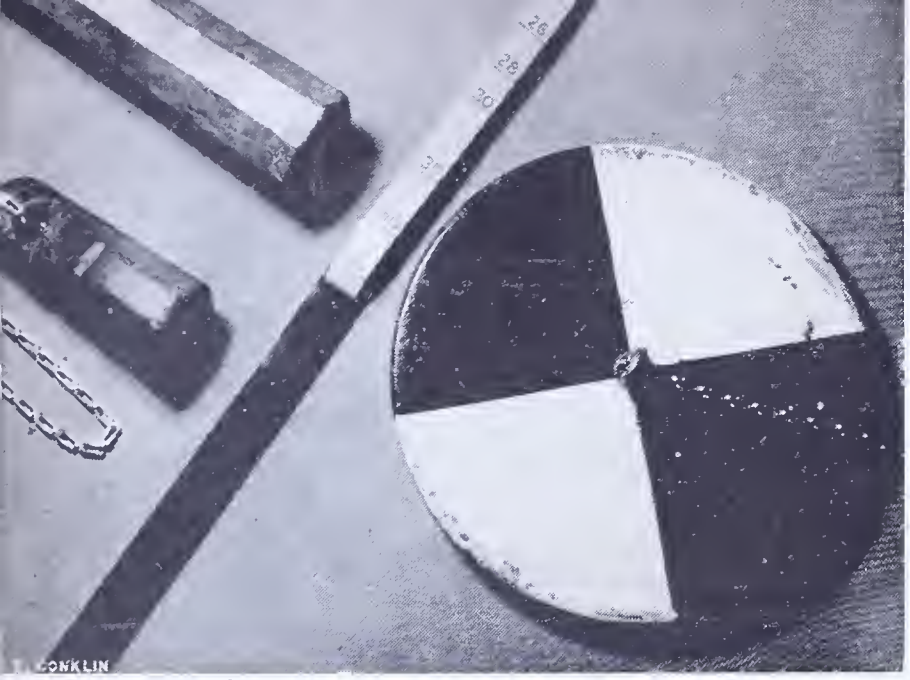
Remember, early in the article I said something about getting back into the corn husk cigarette days . . . something about that old, gay feeling, that youthful yearning for the unusual. Well, I think this exploring game will give you something of this old, lost feeling. A combination of Hunting and Fishing is something a little new, a little different. I think you'll get satisfaction from it—perhaps some fish—perhaps disappointment.

Try it, and see.

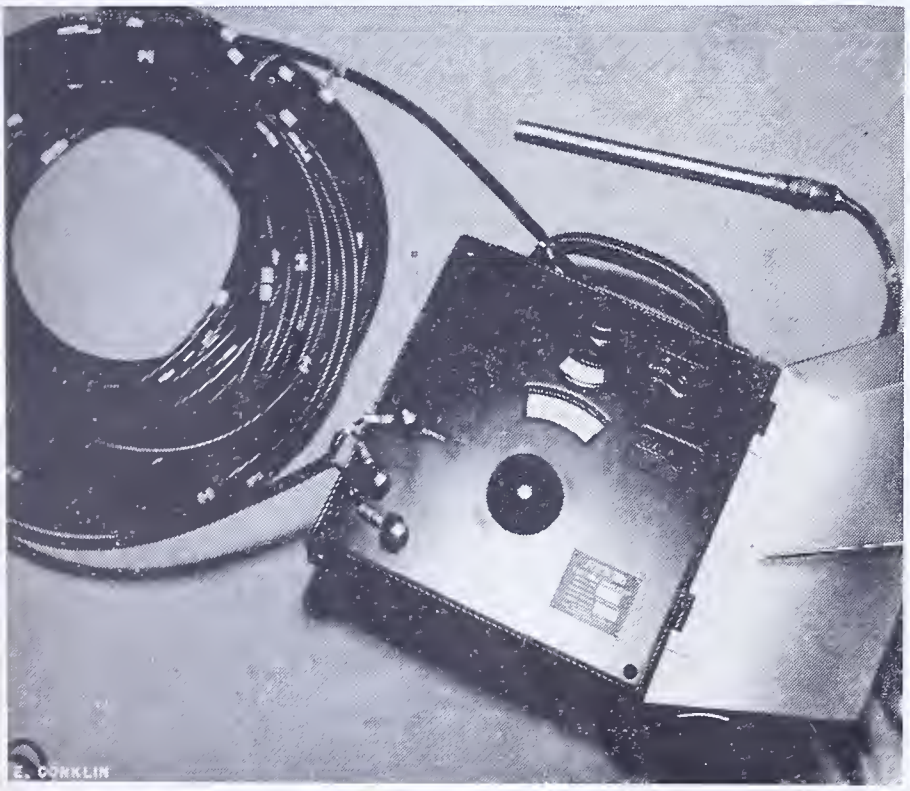
FISH MANAGEMENT GADGETS

By E. F. WESTLAKE, JR.
Assistant Aquatic Biologist
Pennsylvania Fish Commission

The pictures on these two pages are presented to better acquain many interested anglers of Pennsylvania with the important and e day tools used by the Fish Commission's biologists and others a State hatcheries in their earnest efforts to help raise and stock mor in our streams.

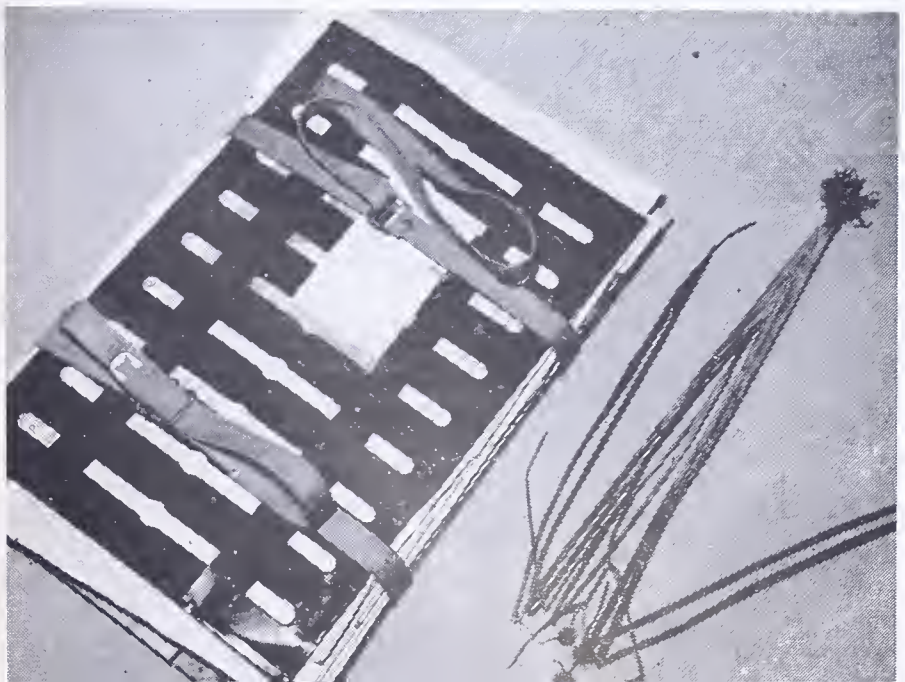


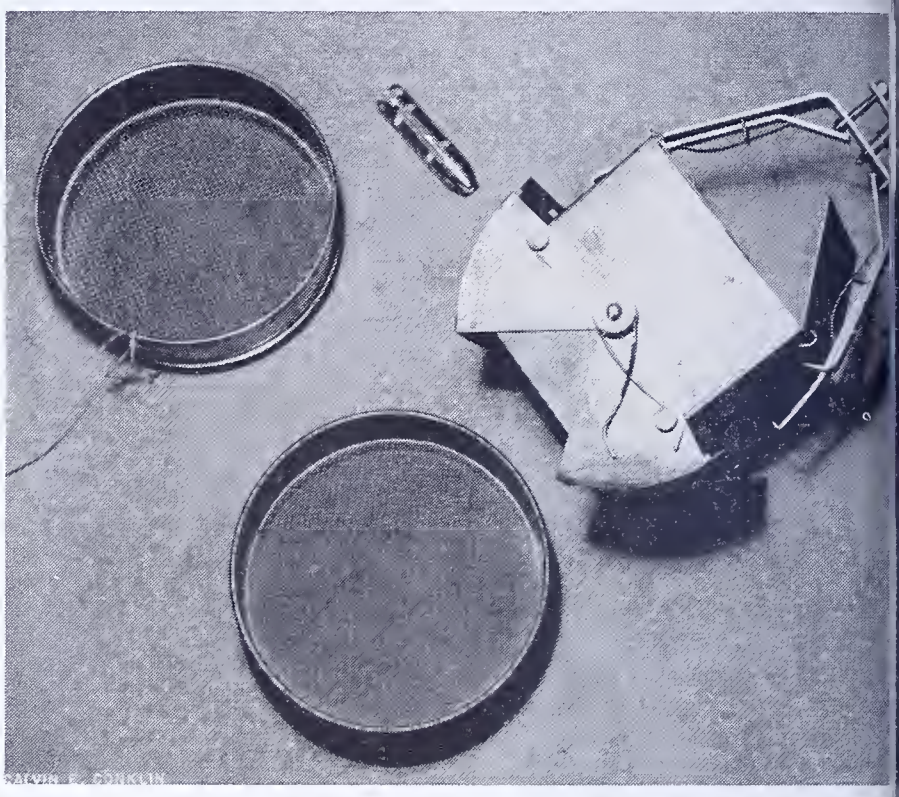
Above—For determining depths and light penetration in lakes. Sounding leads and calibrated chain, turbidity scale and disc.



Above—Portable resistance thermometer. Bulb (upper right) is lowered to any water level and temperature is recorded electrically in the boat.

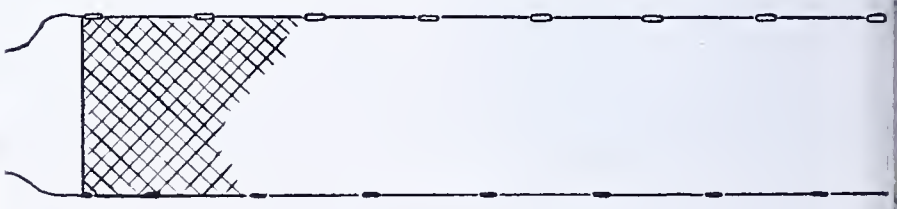
Below—Plant press for aquatic plants.





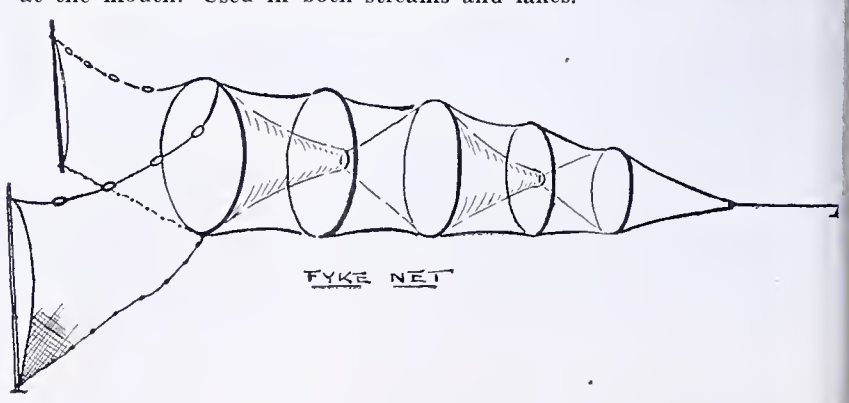
Above—Used in lake bottom studies. Dredge for obtaining botton samples and sieves for separating bottom-dwelling organisms. Mes senger (top) slides down chain and trips dredge.

Below—Gill Net. Made of linen or nylon and usually weighted s they stand up like a fence on the bottom. Fish run into meshes an are caught by the head. Set in both deep and shallow water.



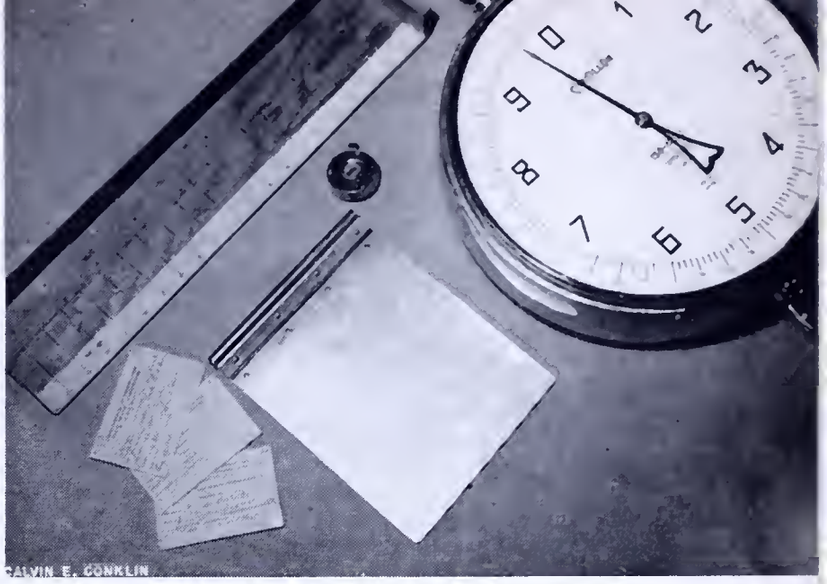
GILL NET

Below—Fyke Net. This is a series of hoops and funnels with wing at the mouth. Used in both streams and lakes.

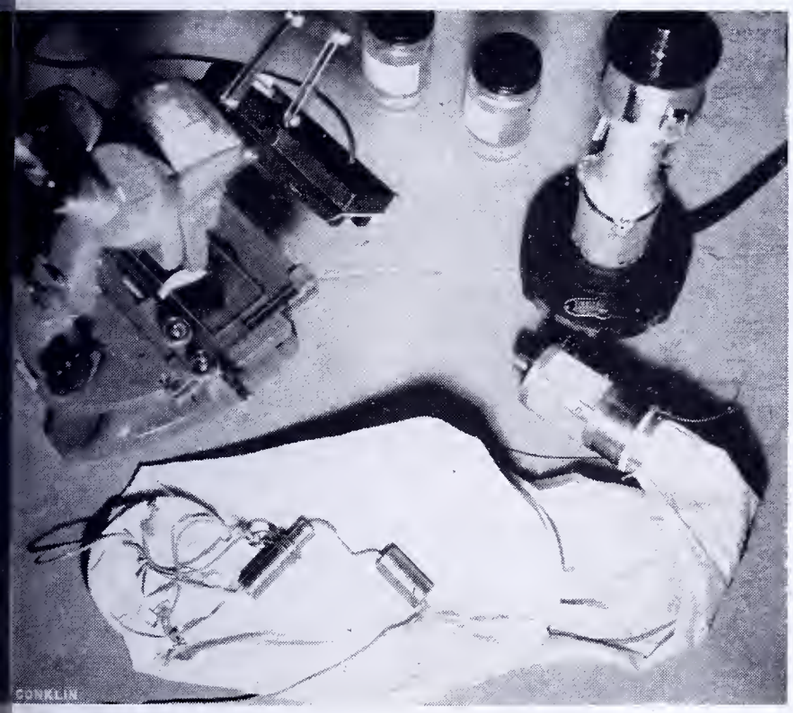


FYKE NET

Above—Water analysis equipment. Chemistry set (left), pH Kit ight) and water sampler (below).



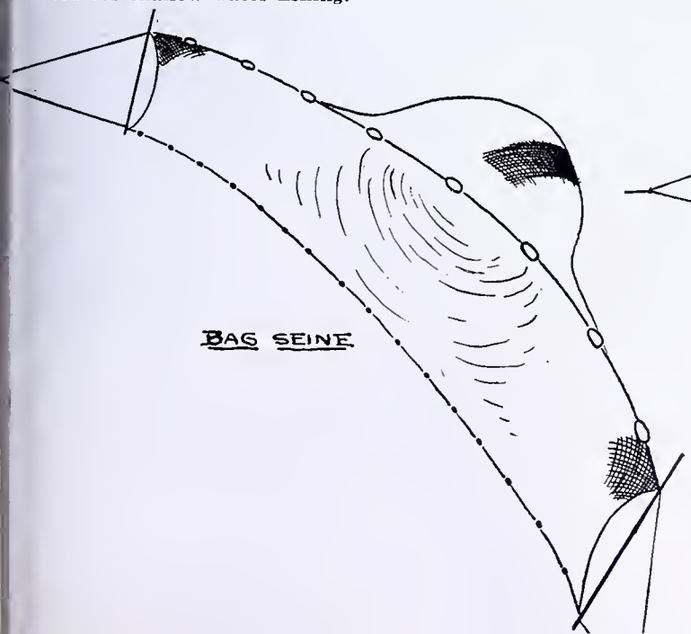
Above—Measuring, weighing, and counting fish. Measuring board, scales, field notebook, hand tally (above notebook) and envelopes for fish scales.



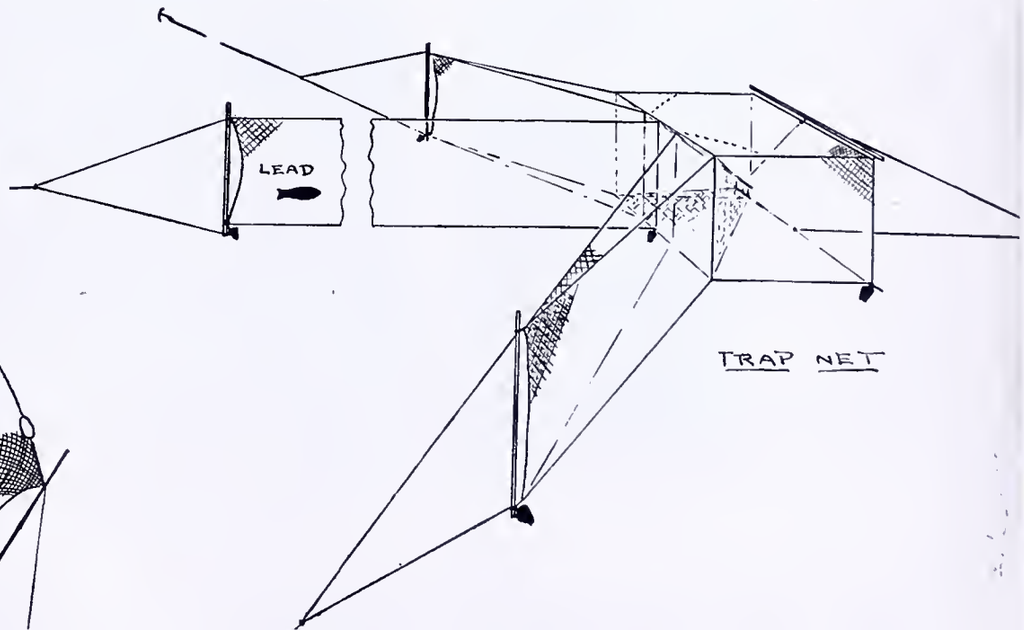
Above—For plankton studies. Folding plankton net (below), centri- uge (upper right) and microscope (upper left).

Above—Marking and tagging fishes. Fish tags and shears for fin clipping.

Below—Seine. Equipped with bags or pockets in the center, seines re used for shallow water fishing.



Below—Trap Net. Usually set in shallow water. The "lead" may be as long as 200 feet. Fish follow this lead into the trap.



Hidden Trout Brooks

By Dick Fortney

IN THE mountains and the valleys of the state of Pennsylvania are literally hundreds of miles of little trout brooks that are ignored by the vast majority of anglers. While the larger, better known streams are fished day after day by an army of sportsmen from April 15 through July 31, these little hidden brooks babble on their way, disturbed only by anglers who have learned the secret of their charm.

Little trout brooks are not for meat fishermen, for while an occasional good fish may be caught in their pools, by far the most of the trout they shelter are within an inch or two of the legal limit.

Their charm lies, then, not in the size of the fish they produce, but rather in their beauty, the angling problems they present, and the fact that because the trout in them run small, the action is faster.

Personally, we don't recommend them for bait fishing, for the chance of injuring or killing undersized trout is too great. But the angler who uses a wet or dry fly can fish in the knowledge that it is easy for him to return unwanted fish to the stream unharmed.

There is a stretch of trout brook not far from my home that has a particular appeal. It is roughly a mile and a quarter in length, running through a narrow, wooded valley. It twists and turns and offers a great variety of water—deep pockets, flat pools, riffles, —and as great a variety of hazards such as overhanging vegetation, shorelines thick with evergreens, and twisting currents.

Rig up a short, light rod for small brook fishing. It will be easier to handle, and it will make the fish feel heavier.

Time and again I have fished this stretch of stream, never failing to catch anywhere from a dozen to a score or more of trout.

The stream is capable of surprises too. One afternoon, near the end of the stretch I like to fish, I let the current carry my dry fly over a riffle and down into a fairly deep pocket while I tucked my rod under my arm and lighted a cigarette.

When I shifted my rod back to my right hand, there was a violent reaction, and I netted a fat brown trout 15 inches long. How he got into that little stream posed an interesting question.

Tackle is an important item for the angler who would try his hand at trout brook fishing. Because the fish he will catch are small, the kind of equipment he uses on a large creek or river is entirely out of place. What sport could there be in catching a trout seven or eight inches long with a nine-foot rod and a big streamer fly?

A rod that weighs three or four ounces is ideal for the trout brook—for with so delicate a piece of equipment a seven-inch trout is able to put on a splendid show. A small trout on a light rod, as a matter of fact, actually gives the angler a greater thrill than a considerably heavier trout on stouter tackle.

The reel, line, and leader should match the rod.

It goes without saying that a heavy reel spoils all the pleasure of fishing with a light-weight rod.

On a trout brook there is no need for long-distance casts, therefore no need for a heavy line.

And by the same token, the leader should be long and fine. Remember, the trout brook angler works on small water!

The variety of flies used depends, as usual, on the season of the year, the type of water, and the mood of the trout. But there is one thing that can be said: A greater variety of patterns and sizes of flies can be used in tiny brooks than produce results on larger waters. The reason is that the trout, being small and "uneducated," strike more freely.

On my own pet trout brook the bivisible Royal Coachman, in Size 14, is a never-failing lure.

One major problem in trout angling is present to only a minor degree in the trout brooks. That is the problem of where the trout will be found at any given time.

Movements of the fish are definitely restricted in the trout brook. They have no large holes in which to hide and there are none of the long, deep swifts found in the bigger streams. So they are apt to roam all over the stream.

The brook angler never dare forge that fact. He cannot afford to overlool a single bit of the stream he is fishing

One day the trout will be feeding i the shallowest riffles. Another tim they will be concentrated in the pools Or they may shift from riffle to pool, o vice versa, during the course of couple of hours.

Not only must the angler fish ever possible bit of water as he progresse along the brook, but he also must d his fishing with the utmost care. Ther is no second chance for a rising trou in a small brook. A sloppy, careles cast of the fly will scare the daylight out of him. So will the rumble of a angler who tramps heavily along a earthen bank or who goes crashin over the stones in the stream bed.

Brook fishing is an art—more diffi cult than any other kind of trout fish ing. It's not uncommon for a man t get down on his knees and to cast fro that position, either to keep the trou from seeing him or to get his fly unde the overhanging branches of a tre He also may have to master the tric of casting left-handed or with the han dle of the rod in his right hand and th tip extending far to his left as he make his false casts and sends the lure ou over the water.

The brook angler has to pay stric attention to stream currents, for ofte he has to rely on the stream itself t carry his fly into some difficult spo where he figures a fish is in waiting.

He stays out of the water as much a possible to avoid disturbing the fish—and because a trout brook usually o fers few opportunities for travel alon its shores, he has to develop to the nt

Fishing Streams

How well do you know the brooks, creeks, and rivers in which you fish? Do you know where to look for good fishing spots in riffles, in swift glides, and in the quiet pools?

Beginning with the next issue, PENNSYLVANIA ANGLER will present a series of three articles analyzing the common characteristics of streams, and their significance for the angler.

The series has been written exclusively for PENNSYLVANIA ANGLER by a veteran writer and former editor of the magazine, Dick Fortney.

Your reading of them will enrich your fishing knowledge and your enjoyment of the sport.

egree the art of moving quietly hrough pools and riffles.

Old-timers in the sport of trout rook angling travel light—and that dds to their pleasure. Obviously, here is rarely need for a landing net r a creel, so they can be left in the ar. Other accessories—boxes of flies, nd so on—can be reduced too.

Patience and endurance are other ualities which the trout brook angler nust possess.

The best of these streams are not asy to reach. My favorite brook inolves half an hour of walking. I know nother that is even tougher. A big reek has to be waded first (there is no oad in to the brook), and then the ngler has to hike a mile or more along he lower reaches of the brook before e finds fishable water. And if a road loes get to the trout brook it usually as a rough, dirt surface.

Those factors are all to the good. In his day and age most anglers won't go o a lot of fuss to get to trout water.

The patience factor also is important.

The veteran brook fisherman selects he day and the brook, then fishes it lowly and quietly. He puffs on his ipe, scans the riffles and pools from vell back, and plans his quiet invasion.

He circles far back to avoid causing ank vibrations and he does his casting s quietly as he possibly can.

He catches a fish, then sits down and ests the pool for a while before he asts again. He curbs a natural tendency to hurry on to the next pool, and instead covers the water thoroughly as he goes.

And, above all, he isn't worried in the least over the prospect that he likely will have no fish to take home to show to his friends.

He's fishing for the pure joy of the sport on streams where civilization has not yet marched in, where the competition from other anglers is less keen, but where nature is no less beautiful and the fish no less active than on the bigger waters where the majority of his brothers spend their fishing hours.

Open water like this doesn't occur very often in a small trout brook, and when it does the angler must use a cautious approach and handle his tackle with delicacy.

Here's a good pool in a small brook—but the angler at the left has to know how to handle his tackle to get a fly under that overhanging tree—the very spot the trout are likely to be found.

$25 Cost of Illegal Fishing

Three Philadelphians pleaded guilty to fishing without a license and were fined $25 and costs recently by Magistrate Thomes E. Costello at a hearing at Park Guard Central Headquarters, 44th St. and Parkside Ave., Philadelphia.

The men fined were Edward Ditizio, 834 Winton St.; Leemond Huff, 1108 Germantown Ave., and Samuel Edwards, 1005 Brown Place. Ditizio and Huff were charged with illegally fishing in League Island Park Lake, while Edwards fished without a license in the Schuylkill.

Fish Warden Horace A. Pyle, Coatesville brought the prosecutions.

Care of Nightcrawlers

Nightcrawlers or "dew worms," the granddaddy of all our angleworms, are easy to catch but hard for some fishermen to keep for long periods. With a little care nightcrawlers, so easy to catch in the wet spring months, may be held over in perfect condition for late summer fishing.

Place a tight wooden box or tub in a cool place, preferably a basement. Fill the tub with dry florist's moss (inexpensive and obtainable at most greenhouses), throw in a handful of dry cornmeal or oatmeal, dump in a gallon or two of nightcrawlers, and your worm problems are solved for the summer.

PENNSYLVANIA REPTILES & AMPHIBIANS

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 16 . . . Salamanders

SEAL SALAMANDER (Desmognathus monticola) . . . Maximum length 5¼ inches; brown with heavy mottlings above of cream, yellowish or reddish spots margined with black scallops; resembles Dusky Salamander but is stouter, more powerful and more aquatic; frequents mountain streams and waterfalls; eggs are attached to the under surface of stones; found in Pennsylvania only in these counties: Allegheny, Armstrong, Bedford, Clearfield, Fayette, Greene, Indiana, Somerset and Westmoreland.

NORTHERN DUSKY SALAMANDER (Desmognathus fuscus fuscus) . . . Maximum length 5¼ inches; most common salamander in Pennsylvania; extremely variable in pattern, coloration and size; old specimens often uniform dark brown or gray; young specimens yellow-brown, red-brown or gray-brown with lighter blotches on back; occurs throughout the State in moist or wet habitat . . . along streams, in wet leaves in mud; 12 to 26 eggs deposited in moist cavities near water from June to August.

LONG-TAILED SALAMANDER (Eurycea longicauda longicauda) . . . Maximum length 6¼ inches; strikingly marked black and yellow with black "herring-bone" pattern on the sides of the tail; adult's tail comprises 60 per cent of total length; adults are terrestrial and nocturnal, found under logs and stones in woods and in springs and caves; first eggs ever found were in Montgomery County, Penna., January 2, 1943, attached to rocks and boards in an old mine.

NORTHERN TWO-LINED SALAMANDER (Eurycea bislineata bislineata) . . . Maximum length 4½ inches; ranges from yellow to dark brown in color; gets its name from two dark lines, one on each side of the body, running from head to tail; look for it under stones along stream borders, in leaf mold and under woodland stones; in late spring 12 to 36 eggs are laid on the under surface of a stone in running water occurs throughout the State, having been collected in 55 counties.

PIEDMONT RED SALAMANDER (Pseudotriton montanus montanus) . . . Maximum length 7 inches; also called Baird's Red Salamander; similar to Northern Red Salamander, but is distinguished by the few scattered black spots on its duller red body; has not been found in Pennsylvania since 1849 when the original specimen was obtained near Carlisle in Cumberland County; look for it in or near muddy springs and streams; report any specimens found to Carnegie Museum, Pittsburgh; above photo courtesy of S. C. Bishop, University of Rochester.

ALLEGHENY MOUNTAIN SALAMANDER (Desmognathus ochrophaeus ochrophaeus) . . . Maximum length 4 inches; back varies in color from bright red or yellow to dull brown or black; usually a row of dark dots along center of back; much like Dusky Salamander, but color on back will help to distinguish it; restricted more or less to mountainous areas; has been collected in 36 northern and western counties in Pennsylvania; clusters of 11 to 14 eggs laid under stones or logs on wet hillsides.

Fishing Isn't Catching Fish

y Al Wolgast

Fishing wasn't my sport. With the exeption of a little sun and cat fishing when youngster, I never seemed to get interested n hobbling along some thorny path to a onely river bank, and waiting for hours ntil a bite came along, in the meantime ursing mosquito bites, the only kind of a ite I usually got.

As the years went by, and I broke away rom the sport of boxing in the squared ing, I began to perk up a wee bit of interest vhen a number of my friends began to stop y my home, and very proudly showed off heir various catches of bass, crappies, trout, ike, muskies and even carp.

I began to wonder, maybe there was somehing to this fishing, for I knew that we ere in Mercer County are quite fortunate n having the not too far Pymatuning Lake ocated between the States of Pennsylvania nd Ohio-Mercer and Crawford Counties, nd in having a number of well stocked trout treams in the Lackawannack Creek, Little Neshannock Creek, Pine Run, Wolf Creek nd Mill Creek, all within a short auto ride n the County of Mercer.

We also have the Shenango River which s well known for its fighting muskies, isually caught around the Slackwater Bridge bove Sharpsville, and Big Bend above Hamburg, and for the tremendous catfish that re caught, not to mention the hefty bass and eftier carp. Virtually a fisherman's paradise vithin my backyard, and I, not interested, as et.

Finally last summer, a group of sportsmen who love their fishing, George L. Winger, Eugene McGranahan of Sharon, and Thomas Schaller of Sharpsville, persuaded me to buy a fishing license, and invited me to come along to Pymatuning Dam for an evening of crappie fishing. I went along so as not to offend my trio of friends, and practically in no time at all we all were in a boat at the Pymatuning Dam above Jamestown.

Well, like a bolt out of the clear blue sky, something struck me right in the region of the heart. Here was I, a rank beginner, amateurishly holding a casting rod over the boat side and gazing up into the clear sky, when I discovered right then and there what fishing really meant. I knew then that fishing wasn't catching fish, that it meant a cool breeze on my face, a beautiful sky above me, good friends beside me who felt as I did. It meant moments of relaxation, restful and peaceful hours in a boat, and deep contentment. I felt like a new man, all the cares of the world vanished, it was like heaven, and I knew then what I had been missing all these years.

I discovered in that one evening, that although all fishermen don't object to catching fish now and then, it really didn't matter too much, if they didn't they would be back the next day, or next week, but back they would be, enjoying fishing in such a way that only their hearts can explain.

My catch consisted of only two small crappies that evening, but I had caught a far greater catch. I found fishing and I fell in love immediately with it. The next two days found me over at the sports shop where I bought up every known plug, hook, line and sinkers, and I soon had a professional tackle box that was second to only a few. And why not, I was on my way to becoming a fisherman.

From the region of Pymatuning Dam, I was initiated to Lake Erie fishing, and from there to river fishing and stream fishing. These friends of mine worked overtime to make sure that I enjoyed all the fishing I could last summer, and while my catches weren't too much to boast about, I must tell you about the big one that didn't get away. Yes, it happened to me, in my first year of fishing.

Last July, about nine in the morning, at the Pymatuning Dam above Jamestown, I hooked a fighting 30-inch, eight pound walleye that had me quivering with excitement. In our boat were Pete McGranahan of Sharon and Bob Trommer of Cleveland, Ohio, both of whom receive credit for helping me catch this beauty.

I used a casting rod with a U-20 flatfish frog and trolled the line out about seventy feet, when the walleye struck. Being new to the sport, I had assumed I only picked up a snag, when McGranahan yelped at us to reel in, while Trommer stopped the motor. Oh, the excitement, our good friend Pete hollering for me to reel, and with me yelling for him to grab the pole, I felt that I could never boat the pike that seemed to me the size of a young whale.

After ten minutes of heaving and hauling, I managed to bring the fighting beauty to the side of the boat, where the pike gained a sudden burst of strength and zoomed under the boat. I whirled around the bow of the now rocking boat and hung on for dear life with the rod practically doubled up with the weight of the pike. Pete expertly dipped the net under the fish and scooped it into the boat.

Thirty inch, eight pound Walleye caught by Al Wolgast of Farrell at Pymatuning Lake last July. It took a flat-fish plug and thirty minutes to conquer the prize.

It was then that I forgot all rules of quiet fishing and yelped like an Indian on the warpath, until the entire lake seemed to echo with my cry of joy. My body seemed to be on fire, my heart beat rapidly. I discovered then that besides the cool breeze of the wind upon my face, fishing meant also the glorious victory of a fine catch.

Not satisfied with this beautiful pike, I continued to troll after a spell of relaxation and bingo, managed to nail two more fine walleyes, both over nineteen inches long.

I give credit for these catches to Thomas Schaller, one of the finest fishermen in Mercer County, a man who knows where the big fish are, and to my other friends who eased up on their fishing to give me pointers, thus enabling me to wind up with a day that any fisherman would be proud of.

And while on the subject of pike, I might add that George Winger, a member of our party, managed to catch a walleye that topped the eight pounder I caught. His catch was recorded two weeks later, all at Pymatuning, which speaks well for the stocking of pike by the Fish Commission.

Yes, those were excellent catches, and the only ones I made all summer long, but I felt that I had a successful season, not because of the large catch, but because I discovered fishing, and that even though I may go on for years and not make as good a catch as I did last summer, I made the wonderful discovery that catching fish was thrilling, but that fishing was not just catching fish.

Snapping Turtle is Predator

The unsavory reputation of the snapping turtle as a predator has been found by scientific research to be entirely justified, the Wildlife Management Institute reports. These vile-tempered reptiles were found by the Maine Cooperative Wildlife Research Unit, headed by Dr. Howard Mendall, to take full-grown birds as well as ducklings.

Staff members of the Maine Unit last summer carried out an experimental trapping program during July on a few marshes which were known to contain both snapping turtles and broods of ducklings. A total of 35 turtles, ranging in weight from five to 41 pounds, was caught and their digestive tracts preserved for analysis during the winter in the unit laboratory. Three of the specimens contained no food in the stomach or intestines, but of the 32 remaining turtles 13, or 37 per cent contained remains of birds, primarily ducks and pied-billed grebes. The digestive tracts of most of the turtles contained remains of only one bird; but one 30-pound glutton had eaten two downy-grebes, one full-grown grebe, one full-grown goldeneye duck, and one adult ring-necked duck. Remains of at least ten ducks, four of which were over half-grown young or adults, were identified in the study.

Research conducted to date has been of a preliminary nature, but, as a result of results obtained, a more detailed investigation is planned for the coming season by the Maine Cooperative Wildlife Research Unit, Dr. Mendall reports.

Nibbles in the Night

(*From page 7*)

Our entire quartet was catching fish. Most of our strikes came from hungry, night-feeding catfish but we caught a half dozen eels which were so difficult to handle in the darkness none of us was much thrilled when he hooked into one.

The agile and slippery eels usually made a mess of our tackle when we managed to drag them ashore and, even though we covered the wet palms of our hands with sand before attempting to deposit them in our burlap sack and remove the hook, each of us had a tough struggle before he got his eel in the sack.

Bill and Carl made the mistake of holding eels against their persons and as a result had their jackets smeared with a slime that they later found could scarcely be removed from the garments.

Del, Bill, and I caught some good-sized rock bass during the evening's fishing, and it was Bill's good fortune to get the only black bass caught by us that night. It was a 14-inch fish which struck a hellgrammite that Bill had on his hook.

This hellgrammite was the only one we had. Indeed, Bill didn't know it was in his bait box until he reached in for a worm and felt it there. It had been left in his bait can from the day before when he had been bass fishing, and evidently clung to the inside of the bait box when he dumped his hellgrammites into a larger can after returning home from the previous fishing trip.

A couple of us fished with two hooks on our leaders and during one period when catfish were especially active Carl twice caught two of them simultaneously. They were nice fish, too, which made our chunky companion quite happy.

We had brought with us a couple thermos bottles of cool chocolate milk but had forgotten to bring them with us to the place where we were fishing. Probably all of us were thirsty, but it was Bill who spoke first of the chocolate milk in the car.

"Golly, wouldn't a swig of that cool chocolate milk taste good!" called Bill to the rest of us.

"Sure would," replied Del, "we'll detail you to go to the car and get the thermos bottles."

"You are elected, Bill," chimed in Carl, and Bill, realizing the assignment was his and that he would have to get the milk if he wanted his thirst quenched, set his fishing rod on the shore with the request that Del keep an eye on it while he was gone, apparently not realizing Del couldn't possibly see the rod in the thick darkness.

It couldn't have ben more than ten minutes later when we heard Bill tearing through the underbrush on the opposite side of the creek, the beam of his flashlight describing erratic circles in front of him.

"Ye gods!" he exclaimed breathlessly as he reached the water's edge, "that blasted bull chased me all the way across the meadow!"

It developed that Bill had decided to take a short cut on the way back with the thermos bottles and had crossed a pasture field instead of following the creek as we had done in making our way to our fishing place. Unknown to him the farmer through whose place the creek passed at this particular location had turned his herd of cattle out to pasture in the night, and Bill had stumbled into the midst of the herd on his return trip.

Bill insisted that a bull had chased him and we had no reason to doubt his word until about a half hour later when the farmer, probably wondering about the commotion in his herd of cattle, made his way to the creek carrying a lantern. He called to us from the opposite shore and asked how we were making out.

"We are doing all right," replied Bill, "but that vicious bull of yours almost got me a few minutes ago."

"Bull?" replied the farmer in a puzzled sort of way. "I don't have no bull. Them there cattle are all cows, and darn tame, too."

Bill certainly took a ribbing from us the remainder of the evening, and begged us in a shame-faced sort of way not to tell his wife.

"Gosh, there'd be no living with her if she learned I was chased through a meadow by a couple harmless bossies," he pleaded. "Don't for heaven's sake give me away."

Fertilizer Will Control Weeds

The use of poisons to control weeds in farm ponds can be very dangerous, the Fish and Wildlife Service reports. Effective control of many weeds, however, can be obtained by spreading regular commercial fertilizer on the water early in the spring before the weeds start growing. This results in the growth of millions of microscopic plants and animals—which color the water and kill the weeds by shading them.

A little care now will preserve unused lines for future use. Fly lines should not be left on the reel during the months they are not being used.

What's New in Fishing Books

Reviewed by Hugh Johnson

The brookie, squaretail, Salvelinus fontinalis, speckled trout, red-spot, native, or whatever you choose to call him, gets the complete treatment in a new book published within the past few months entitled *The Eastern Brook Trout* by Bob Elliot (W. W. Norton & Co., New York, N. Y., $5.00).

Bob Elliot is connected with the Maine Development Commission, and for a fact the terrific emphasis on Maine squaretail fishing in this book might lead us to the opinion that publicity-minded Maine was subsidizing the work—except that we know better. We know that Maine is the natural home of the brookie, that that is where just about everybody heads who wants to fish for brookies on the grand scale—in terms of size, quantity, scrappiness, and relative state of wildness. The brookie is stocked in streams and lakes of other states, of course, including Pennsylvania, but Maine is the real stamping ground of this famous fish so Bob Elliot is hardly to be criticized for focusing on the great Maine squaretail waters in this interesting study of his favorite fish and the favorite of a million odd other fishermen.

Starting with the history and identification features of the brookie, the author covers the field of where to locate the fish; how to work him; the best flies to use, streamers, wets, and dries; bait fishing; trolling; tackle; best ways to cook the fish; and winds up with information, specific to the point of naming streams and ponds and their exact locations, as to where brook trout can be found in Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, Pennsylvania, Michigan, Wisconsin, and a few other states, and in Canada and the maritime provinces. This "directory" of squaretail waters will be of real value to anyone planning a fishing trip into brook trout territory. A particularly commendable feature about the book is that it doesn't wander from the subject. Brown trout, rainbows, lakers, and the others are left out, and the thoroughness with which Bob Elliot concentrates single-mindedly on his subject might well make *The Eastern Brook Trout* the definitive work on the subject. I would like to have had included more material on the natural history and feeding habits of the brookie, or at least to have had what there is in the book set up as more of a unit, but that is a minor fault and is a matter of personal preference only.

The chapter called "Fishing in Comfort" is exactly what anyone who has fished in Maine or New Hampshire in the summer months would expect it to be—an essay on black flies, deer flies, and no-see-ums and what measures a man can take to avoid being eaten alive by them. It's a good chapter. And a good book, usefully dressed up with strikingly attractive kodachromes in color, and sixteen pages of photographs.

)utboards Worry Anglers More than Fish

Often bandied about lakes and fishing spots roughout the country in the summertime the complaint by fishermen and sports-en that outboard motorboats cause so much sturbance as to spoil fishing success and rm fish life.

In order to settle this question once and r all, scientists at the University of Michi-n through the cooperation of the Outboard oating Club of America, conducted hun-eds of experiments last summer with out-oard motors operating under varying con-tions on fishing waters. The results were leased March 6 at the North American ildlife Conference in San Francisco—and ey prove that outboard motorboats ·ap-rently worry the fishermen more than they oncern the fish!

In the majority of tests conducted, it was und that outboards have no effect at all ther on fish life or fishing success. In the w cases where some effect was found, it as so small as to be insignificant.

Ever since motorboats made their first ap-earance on the fishing scene, a certain nount of criticism has been leveled at them. mong the complaints, it was charged that e action of outboard motors retards fish roduction, keeps fish from nesting, causes e death of newly hatched fry, prevents sect life from propagating, and causes so uch interference as to spoil angling success.

Now, however, the heated debates will be ttled. The experiments and clinical studies ade last summer prove that the fisher-an's complaints and suspicions are un-unded.

It is interesting to note how some of the xperiments were carried on. Six ponds ere used as a laboratory. All stocked with known number of fish, some ponds were ubjected to outboard motor operation, some onds never had an outboard in their waters. 'rom various comparisons and systematic bservations, results were gathered concern-g the problem "outboards versus fish."

While the experiments at Wolf Lake latchery were focused on the effect of out-oards on the fishes themselves—their nest-g, propagation, and production—an investi-ation was carried on at Fish Lake, in south-rn Michigan, to determine whether actual ngling success was affected by the outboard.

This study was one of the most enjoyable or the experimenters (all graduate students t the University of Michigan). For 66 days heir job was to fish for six hours a day. n the first series of 22 days, the men still-ished from the same stations every day, in he second series of 22 days, they shifted ositions each day doing still fishing and lug casting. In the third series of 22 days, he positions were varied even more. Then very other day, a motorboat driven by a horsepower outboard motor was operated n the lake. It passed each fisherman every alf hour. On the alternate days no motors were used at all.

Each fisherman kept a record of the length, species, and the time of his catch for each ish taken. The final analysis proved that he effect of outboards on fishing success was not at all detrimental.

After numerous other experiments, some of them just as enjoyable as the fishing one, others a good deal more tedious, the following conclusions were drawn regarding outboard motors and their effect on fish life and fishing:

1. The operation of outboard motors has no significant effect on bluegill production, nor does motor operation keep bluegills from nesting.

2. The operation of outboard motors in shallow waters has little, if any, effect on the nesting habits or on the production of large-mouth bass.

3. The general effects of motor use on various environmental factors which make fish grow is negligible.

4. Ordinary outboard motor use does not bar sunfish and bass from locating their nests.

5. Outboard motor operation does not increase the mortality rate of advanced fry in any waters except at depths so shallow that motors would not normally be run in them.

6. Outboard motor operation does not influence fishing success. It appears to worry the fishermen much, but the fish not at all.

The experiments were conducted under Karl F. Lagler and Albert S. Hazzard of the University of Michigan's Department of Zoology, who worked in cooperation with the Michigan Department of Conservation and the Outboard Boating Club of America.

Silk or nylon lines should never be dressed before being put away. If they have been usely solely in fresh water they need only be dried completely.

Do not leave the rod in a metal case during the winter months. It should be kept in a dry atmosphere and, if possible, hung free of the brick wall where dampness is usually present during wet weather. A good coating of a high quality polishing wax will do much to prevent dampness.

Congratulating the fellow who bags over his limit is like praising a guy that picks pockets.

Governor Duff Lands Nice Shad at Conowingo

Governor James H. Duff displays a fine string of shad which he helped catch on the Susquehanna River below the Conowingo Dam on Friday, June 16.

In company with C. A. French, Executive Director of the Pennsylvania Fish Commission, the Governor was on the river in the wee hours of the morning and proof of their success is reflected in the photo above. In the photo left to right, Gov. Duff, Geo. W. Collet and Mr. French.

Governor Duff, an enthusiastic fisherman, is not only a strong advocate for fish-ways which would re-establish the natural ascension of shad into the Susquehanna each year, but is constantly active and battling for them.

The Pennsylvania Legislative Committee set up by the 1946 Session headed by Representative George Shoemaker have been busy in its survey and study for feasible fish-ways over the Conowingo, Safe Harbor and Holtwood Hydraulic Dams. The Committee will report to the 1951 Session.

Gov. Duff is hopeful that a plan for fish-ways can be devised which would bring this fine shad fishing back to the Susquehanna watershed for the sport and recreation of the fishermen of Pennsylvania.

Ecological Sense of Nonsense

(*From page* 3)

(brooks, browns, and rainbows) were stocked into Spring Creek, Centre County. Of these 50.8% were recovered and creeled by the fishermen. Of the tagged trout recovered in 1939 more than 40.0% were caught the opening day of the season. 76.0% of the total number of tagged brook trout recovered were caught on the first day. Catches after six weeks were negligible, and only ten of the tagged trout were caught in 1940 and one in 1941. There was no evidence that any planted brook trout survived the first season. The method of determining recovery was by creel census and quite understandably a few fish might have been caught that were not recorded. Assuming however that the methods used were the most reliable at the moment, it is quite alarming that only half of the stocked fish were recovered. The average length stocked and tagged for the experiment was about eight inches although some were as small as seven inches and a few as large as eighteen inches. If Carhart's average cost of thirty cents per eight inch trout is considered substantially correct, then each trout recovered in this experiment was a sixty cent fish; or if you choose, hold the price at thirty cents per trout and assume about 1,000 trout at thirty cents each were lost. So far as the return on the fisherman's dollar invested in stocking is concerned, any policy permitting the creeling by fishermen of the greatest number of stocked trout is from an economic point of view at least the most desirable. Other experiments show similar results, and the fisherman would have to be like the ostrich to think the price of fishing is cheap. In 1933 Eben W. Cobb in similar experiments reported a 31.0% recovery in Connecticut. In 1938 Earl Hoover and M. S. Johnson reported a 70.0% return of brook trout in New Hampshire in three weeks. In 1941 David Shetter and Albert Hazzard reported recoveries varying from 2.0% to 58.4% for brook trout, 0.6% to 61.9% for rainbows, and 2.0% to 19.2% for brown trout in Michigan trout streams. It would certainly appear to be true that the science of raising trout is far ahead of the science of stocking or of stream requirements for trout survival. If in Pennsylvania 500,000 fishermen were to catch just one trout per season, a million would have to be stocked; and if each fisherman would catch one day's limit of ten trout, then 10,000,000 trout would have to be stocked. Ten million eight inch trout at thirty cents is $3,000,000.00.

It is obvious that propagation cannot be the total answer to improved fishing. It is a necessary part of it and cannot be discontinued, but it has been estimated that perhaps 5 out of every 10 trout caught from our streams are native fish; and if that is the case, our streams must be protected and improved in order that they can raise the trout.

In considering Introduction and Propagation as the first two of four points leading to improved fishing, we find little fault with the first. There are times of course when fishermen and clubs complain that they should have brown trout in a stream which is stocked too frequently with brooks, or that rainbows will not stay where they are put and within several weeks have run out of that stream into another. If, however, we consider introduction as something more fundamental than this, then there is little general argument about it. Many fishermen live too few years to consider the problem of introduction. We know that certain kinds of fish occur at certain places, and so far as we are concerned, they have always been there and might continue to be there after we have given up the art and sport of angling.

Much more fault is found with the second point—propagation, than with the first. Most of us are too inexperienced to know anything about the problems and scientific details of raising fish in hatcheries. In Pennsylvania a good job is being done, and it makes little difference whether one measures the production in pounds, tons, or millions; we are getting the fish. Of course we might want more of them but this involves added cost. Not only the cost of each ounce of fish produced must be considered, but also the cost of acquisition of suitable sites and their maintenance. The fisherman's most consistent complaint is not with the propagation of fish but rather with the stocking. Disregarding the complaints that not enough fish are stocked and looking rather at when and how, there are still points of controversy. Although the experts talk only about propagation as a means to improvement, I think it only right that stocking be intimately linked with this second consideration. We need to know considerably more about stocking than we know at the present time, and to learn we must experiment. Experimentation under controlled conditions is research, and here may be the focal point around which we must concentrate our efforts of the immediate future. Unfortunately there is no way to hurry the research except by employing more men to do the job, and good research men, skilled in fisheries work, are not easy to find. In spite of the fact that we know that only about half of the trout stocked ever reach the fisherman's creel, we do not know why this is true. Of course some die a natural death; some are lost to predators, etc., but this is not the entire answer. We must learn how, if possible, to make the return 90% or better in order to get a decent economic return on our investment in propagation. This will also improve fishing in so far as creeled fish is one of the measures of good fishing. We must learn more of the environmental influences to which trout are exposed in our streams —a field of investigation which might well be called aquatic ecology. It is amazing what little we know about streams and their control. We in the United States are far behind England

John Heddon Shows Skill

Catching two sailfish on two strikes is about the same as a major league ballplayer slamming two home runs in two trips to the plate, however, John Heddon recently turned the trick at Acapulco, Mexico, on a sporty "6/9" "Pal" rod.

In anglers' parliance, this means a 6 ounce tip, 5 feet in length, together with a 27 pound test line and since these sailfish weighed in the neighborhood of 125 pounds each, skill played a major part in their capture.

John comes by his angling prowess quite naturally as he is the third generation member of a famous fishing family and president of James Heddon's Sons, Dowagiac, Michigan. His grandfather, James Heddon, founded the company by whittling out America's first topwater casting bait in his kitchen more than a half century ago.

d even Russia in this respect, and th typical American gusto we should plore this situation and see that it corrected.

In addition to stream know-how, hich must be acquired by competent en by research methods, the individual fisherman and the clubs can ntribute to increasing the per cent turns from stocking. Too often we courage, plead, and if possible, force e stocking of fish into water which en by our own limited standards is suitable for stocking. Examples of ch streams might well be those in hich the water temperatures are too gh for trout, polluted streams, small eams in which trout can only survive a short time before they literally arve to death, bathtub streams in hich trout find no protection, either om their natural enemies or the herman. All of these and many hers might be sufficient to stop the ocking of certain water, and yet we individuals or as groups selfishly courage their stocking.

To improve fishing is a big and difficult job. It will take the combined forts of the expert and the experienter as well as the fisherman. We ust exercise some patience, but that tience should not be a willingness do nothing. We must re-evaluate r own standards of what makes good ater into which trout and other fish ould be stocked. If we have a poor ream that is being stocked, let us honest enough to request that it be ken from the approved list. We must vigilant against pollution and ream destruction. We must move to otect the natural fish foods in our esent streams, and if possible, stop e removal of all food which the fish ust have to survive. Remember that the stream itself is to produce its are of the trout caught, everything at we can do to improve the stream nproves the fishing.

In a succeeding article some time ill be devoted to talking about protion and stream improvement as e remaining two methods of improving our fishing.

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ishing, What Tackle and When

The above is the title of a fine pocket ooklet published by the South Bend Bait ompany and contains valuable information r fishermen. The booklet can be obtained ee of charge by addressing a request to e South Bend Bait Company, South Bend, diana.

Eels in America and Europe leave their reams and swim to the warm Atlantic aters north of the Equator. There they roduce their young and die. The young els swim back to the same homes which eir parents left.

Streamside Life

The Blue Flag and Sensitive Fern

By Robert Leo Smith

Along the streamside, on shores of lakes and ponds and in other marshy places, the angler may find during late spring and summer a large blue flower growing among the ferns and grass. By its form he will recognize it as an iris, although the flower, the blue flag, differs from the familiar garden iris. The blooms are smaller, more slender, more graceful. The upright petals or "standards" are violet blue and the purple sepals or "falls" are yellow at the base and veined with a deeper purple over white. The flowers are held above the surrounding leaves by tall, round, leafy stems.

The erect, narrow, sword-like leaves are parallel veined and slightly curved. These arise from fleshy, horizontal rhizomes covered with dense fiberous roots that cling tenaciously to the soil. Where unhampered by competing plants the blue flag grows rank and spreads rapidly, but it does not form pure stands.

Often associated with the blue flag is the sensitive fern, named from its habit of wilting quickly when cut or touched by frost. The fronds of the sensitive fern are stiffer and coarser in appearance than those of other ferns yet they arch gracefully. They are broad and triangular in shape and range from a yellowish to a blue green in color.

The clumps of sterile fronds appear in spring along with the blue flag but it is not until fall that the fertile fronds push up

through the thick vegetation. They are stiff, branched stalks covered with brown, spore-bearing structures that look much like beads. From this characteristic the sensitive fern has earned another name, the beadfern. While the sterile fronds may be very sensitive to cold the persistent fertile fronds stand up through the winter and often last in a battered condition for over 2 years.

Fly Fishing for Black Bass

(From page 9)

around in the water. While the pan fish is struggling for freedom, invariably the bug has been pulled under water and darts about haphazardly. Often a bass spies the bug darting around under water and is immediately aroused into action. Often the bass strikes at the bug being jerked by the sunfish, and if the angler feels any sudden pull, chances are a bass has struck the fly. After landing the bass and sunnie, the sunnie or both can be released and neither are seldom harmed during the event.

This method is well worth the consideration of every bass angler, especially at the times when the bass fishing seems to be "off" and they refuse bugs fished on the surface.

Rather than tie in an extra piece of leader for the small wet fly, I generally place a leader along the shank of the bug hook and tie the bug at the time of construction over leader and shank of hook simultaneously. The leader can be knotted around the shank of hook so the bug does not slip up or down the leader. This trick is not always successful, but I have had considerable success on days when the bass were ordinarily uncooperative. I do not hesitate in suggesting that at times it be used. Often a large sun fish specimen is caught this way and is a worthy prize by itself.

Indeed, fly fishing for bass is a pleasing and delightful sport, however, if we wish this wonderful sport to continue through the coming years, we need to become sportsmen and rather than coming home with a heavy creel of bass, release many of the smaller ones so that they are ready again to give you some acrobatic blood tingling sport again tomorrow.

A bronze battler caught and in your creel is dead forever, however, if he is released, he is a battler awaiting your return.

All fly lines, tapered or level, silk or nylon, have several coats of finish that must be protected. If left on the reel for any length of time, they take a set and lose a great deal of their usefulness.

PENNSYLVANIA FISH LAW VIOLATIONS

CASES SETTLED DURING THE MONTH OF MAY 1950

ALLEGHENY COUNTY

Balog, Joseph, 118 Morgan St., Brackenridge, Pa. Violation of the Rules and Regulations ..... $ 20.00
Celedonia, Mack, 344 Broadway, McKees Rocks, Pa. One pike in closed season 10.00
Chariton, James, Bairdford, Pa. Violation of the Rules and Regulations 20.00
Deel, Harry E., Curtesville, Pa. Fishing in nursery waters 100.00
Dutkowsky, John, 1412 Faulsey Way, Pittsburgh, Pa. Exceeding creel limit 30.00
Flowers, J. F., 159 45th St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Hockman, Howard, Jr., 1704 Ridge Ave., Coraopolis, Pa. Fishing in nursery waters 100.00
Lewis, Elmer, Box 198, Bunola, Pa. Fishing without a license 25.00
Meyers, Joseph M., R. D. 3, Elizabeth, Pa. One pike in closed season 10.00
Mooney, James, R. D. 3, Elizabeth, Pa. One pike in closed season 10.00
Orris, William G., 443 Lexington Court, Pittsburgh 23, Pa. One undersized trout 10.00
Richard, Charles F., Richard Rd., Wexford, Pa. Exceeding creel limit 10.00
Walsh, August H., 1851 Main St., Pittsburgh 15, Pa. Violation of the Rules and Regulations 20.00

ARMSTRONG COUNTY

Beech, John C., 510 Hawthorne Ave., Kittanning, Pa. Exceeding creel limit 20.00
Hawk, Daniel, R. D. 1, Mahoning, Pa. Rods not under immediate control 20.00
Hawk, Daniel, R. D. 1, Mahoning, Pa. Exceeding creel limit 10.00
Hawk, Daniel, R. D. 1, Mahoning, Pa. Interference with an officer 100.00
Mohney, Donald, R. D. 1, Mahoning, Pa. Rods not under immediate control 20.00
Mohney, Donald, R. D. 1, Mahoning, Pa. Exceeding creel limit 10.00
Perkinson, Lawrence, 1129 Wilson Ave., Kittanning, Pa. Exceeding creel limit 20.00

BEAVER COUNTY

Schramm, George H., 2106 8th Ave., Beaver Falls, Pa. Exceeding creel limit 100.00

BEDFORD COUNTY

Kiel, Paul J., Box 17, Manns Choice, Pa. Exceeding creel limit 30.00
Rineard, Joseph Jr., Saxton, Pa. Violation of the Rules and Regulations 20.00

BERKS COUNTY

Keller, Richard I., R. D. 1, Stony Creek Mills, Pa. Fishing without a license 25.00

BLAIR COUNTY

Hockenberry, Paul E., 217 Bell Ave., Altoona, Pa. Interfering with an officer 100.00

BRADFORD COUNTY

Lahland, Jack, 610 S. Main St., Athens, Pa. Fishing without a license 25.00

BUCKS COUNTY

Sedlak, Charles, R. F. D. 1, Boylestown, Pa. Fishing without a license 25.00

BUTLER COUNTY

Weitzel, Melvin L., 309 Mitchell Ave., Butler, Pa. One pike in closed season 10.00

CAMBRIA COUNTY

Cerwensky, Earl, Box 147, Portage, Pa. One undersized trout 20.00
Engelbach, Karl, 721 Clark St., Johnstown, Pa. One undersized trout 10.00
Gearhard, John H., 1048 3rd Ave., Brackenridge, Pa. Violation of the Rules and Regulations 20.00
Gross, Don J., 1221 Bedford St., Johnstown, Pa. Fishing and trespassing on State Hatcheries and Premises 100.00
Kiel, Harry L., Washington Ave., Portage, Pa. Exceeding creel limit 30.00
Kiel, Thomas, Washington Ave., Portage, Pa. Exceeding creel limit 30.00
McClelland, Clifford L., 400 Bay St., Johnstown, Pa. Fishing and trespassing on State Hatcherie premises 100.00
Singer, Fred S., 3218 6th Ave., Altoona, Pa. One undersized trout 10.00
Wantiez, Forest, Dunlo, Pa. Four undersized trout 40.00

CENTRE COUNTY

Rickert, Franklin R., Orvistown, Pa. One undersized trout 10.00
Rothrock, Frances E., Phillipsburg, Pa. Violation of the Rules and Regulations 20.00
Smead, Richard E., 225 W. Lamb St., Bellefonte, Pa. Fishing without a license 25.00
Thompson, Norma M., 532 S. Market St., Selinsgrove, Pa. Fishing without a license 25.00
Thompson, Norman D., 532 S. Market St., Selinsgrove, Pa. Fishing without a license 25.00

CLEARFIELD COUNTY

Ballock, Joe, 803 Florence St., Phillipsburg, Pa. Four undersized trout 40.00
Burns, Joseph R., Osceola Mills, Pa. Three undersized trout 30.00
Kephart, Danny, 715 Hale St., Osceola Mills, Pa. Attempting to seine minnows from Mashannon Branch ... 20.00

CLINTON COUNTY

Hiller, Elmer, North Bend, Pa. One undersized trout in restricted area 20.00
Peters, Mrs. Catherine E., R. D. 1, Lock Haven, Pa. Fishing without a license 25.00
Rauch, Lester, 328 Huron Ave., Renovo, Pa. Exceeding creel limit 10.00

COLUMBIA COUNTY

Hartman, Bruce, R. D. 5, Bloomsburg, Pa. Two undersized trout ... 20.0

CRAWFORD COUNTY

Crawford, George W., R. D. 1, Townville, Pa. Fishing without a license 25.0
Haskell, H. H., 215 W. Main St., Titusville, Pa. One undersized trout ... 10.0
Kiskadden, William, Hartstown, Pa. Two frogs in closed season 20.0

DAUPHIN COUNTY

Baker, Martin W., 4th St., Harrisburg, Pa. Fishing in Huntsdale Hatchery 100.0
Daniels, James, 645 S. 4th St., Steelton, Pa. Fishing without a license 25.0
Shenfield, Albert L., Royalton, Pa. Operating motor boat without a license ..... 10.

ERIE COUNTY

Milewski, Peter, 322 Wallace St., Erie, Pa. Unlawful removal of fish from nets ..... 100.

FAYETTE COUNTY

Gillam, James, Lamont, Pa. Violation of the Rules and Regulations 20.
Marshall, George, R. D. 1, E. Millsboro, Pa. Rods not under immediate control ..... 20.

FOREST COUNTY

Bennett, George, Marienville, Pa. One undersized trout ..... 10.

FRANKLIN COUNTY

Baker, Lennis C., R. D. 1, Waynesboro, Pa. Rods not under immediate control ..... 20.
Beam, Harold E., 729 S. 4th St., Chambersburg, Pa. One bass in closed season ..... 10.
Boggs, Preston L., Fannettsburg, Pa. Illegal device 20
Cramer, Roy C., 222 W. King St., Chambersburg, Pa. Exceeding creel limit 10
Fleagle, Donald H., Fannettsburg, Pa. Illegal device 20
Koons, Ralph, R. D. 4, Waynesboro, Pa. Illegal device 20
McCollough, Charles, S. Fayette St., Mercersburg, Pa. Fishing without a license 25
Morganthall, Walter, R. D. 4, Waynesboro, Pa. Illegal device 20
Yeager, Clyde F., R. D. 4, Waynesboro, Pa. Illegal device 20

GREENE COUNTY

Butler, Sam, Jefferson, Pa. Exceeding creel limit ..... 10.

HUNTINGDON COUNTY

Dr. M. D. Campbell, Mapleton Depot, Pa. Two undersized trout 20
Nicholson, Arthur, R. D. 1, Aitch, Pa. Two undersized trout 20

INDIANA COUNTY

Brink, Edward E., Altman, Pa. Illegal device 20
Cunkleman, Walter O., R. F. D. 2, Blairsville, Pa. Illegal device 20
Domenick, Edwin P., 26 Beach St., Homer City, Pa. Illegal device 20

lton, Robert O., R. F. D. 1, Homer City, Pa. Purchasing license while license was revoked 25.00
ward, William A., R. D. 2, Blairsville, Pa. Illegal device 20.00
ons, John D., R. F. D. 3, Blairsville, Pa. Illegal device 20.00
indows, Thomas I., R. F. D. 2, Homer City, Pa. Illegal device 20.00

CKAWANNA COUNTY

ller, Joseph, 141 Dean St., Archabald, Pa. Fishing in closed stream 20.00

NCASTER COUNTY

ook, Charles, 613 Walnut St., Columbia, Pa. Fishing in closed waters 20.00
ville, Ralph, 649 E. Madison St., Lancaster, Pa. Illegal device 20.00
ckhart, Ervin, 634 E. Walnut St., Lancaster, Pa. Illegal device 10.00

WRENCE COUNTY

nes, Donald E., 841 Beckford St., New Castle, Pa. One pike in closed season 10.00
vkovich, Michael, Box 227, W. Pittsburg, Pa. Fishing without a license 25.00
olff, Albert E., 1236 E. Washington St., New Castle, Pa. One pike in closed season 10.00

HIGH COUNTY

iller, William, 1617 Utica St., Allentown, Pa. Exceeding creel limit 20.00
hell, Rewellyn, 1042½ Spring Garden St., Allentown, Pa. Exceeding creel limit 20.00

ZERNE COUNTY

anas, Edward V., 620 Locust St., Hazleton, Pa. Two undersized trout 20.00
nes, Walter F., R. D. 1, Wapwallopen, Pa. One undersized trout 10.00
asian, Ted, 246 Front St., Nanticoke, Pa. Fishing in closed stream 20.00
odaczeski, John S., 114 Pikes Peak, Nanticoke, Pa. Three pike perch in closed season 30.00
ubach, Basel, 11 Thomas Lane, Kingston, Pa. Exceeding creel limit 10.00

YCOMING COUNTY

ill, Clayton E., Marsh Hill, Pa. Fishing without a license 25.00
ouse, W. Dorland, 1522 Walnut St., Williamsport, Pa. One undersized trout 10.00

ONTGOMERY COUNTY

urdin, Governor, 603 Lincoln Ave., Pottstown, Pa. Illegal device 20.00
IcMillan, Joseph, 49 Evans Ave., Lacey Park, Pa. Fishing without a license 25.00

ONROE COUNTY

erger, Harold, Kresgeville, Pa. Exceeding creel limit 20.00
resge, John, Bartonsville, Pa. Exceeding creel limit 30.00
ernandex, Eugene, Canadensis, Pa. Fishing on Sunday without permission of landowner 25.00
haffer, Harold, Analomink, Pa. Violation of the Rules and Regulations 20.00

NORTHAMPTON COUNTY

Wallers, Earl E., R. D. 2, Nazareth, Pa. Exceeding creel limit 10.00

NORTHUMBERLAND COUNTY

Zigler, Clarence, Herndon, Pa. Failure to display motor boat license plates 5.00

PERRY COUNTY

Clouser, Paul R., 6th St., Newport, Pa. Using Explosives 100.00
Flickinger, Frank E., 140 S. 4th St., Newport, Pa. Using Explosives ... 100.00
Geedy, William G., Newport, Pa. Using Explosives 100.00
Swartz, Charles W., New Bloomfield, Pa. One black bass in closed season 10.00

PHILADELPHIA COUNTY

Lehman, Edward H., 5801 Warrington Ave., Philadelphia, Pa. Violation of the Rules and Regulations 20.00
McKenna, John, 437 E. Elkhart St., Philadelphia, Pa. Fishing without a license 25.00
Reid, George A., 241 E. Tusculum St., Philadelphia, Pa. Fishing without a license 25.00

SCHUYLKILL COUNTY

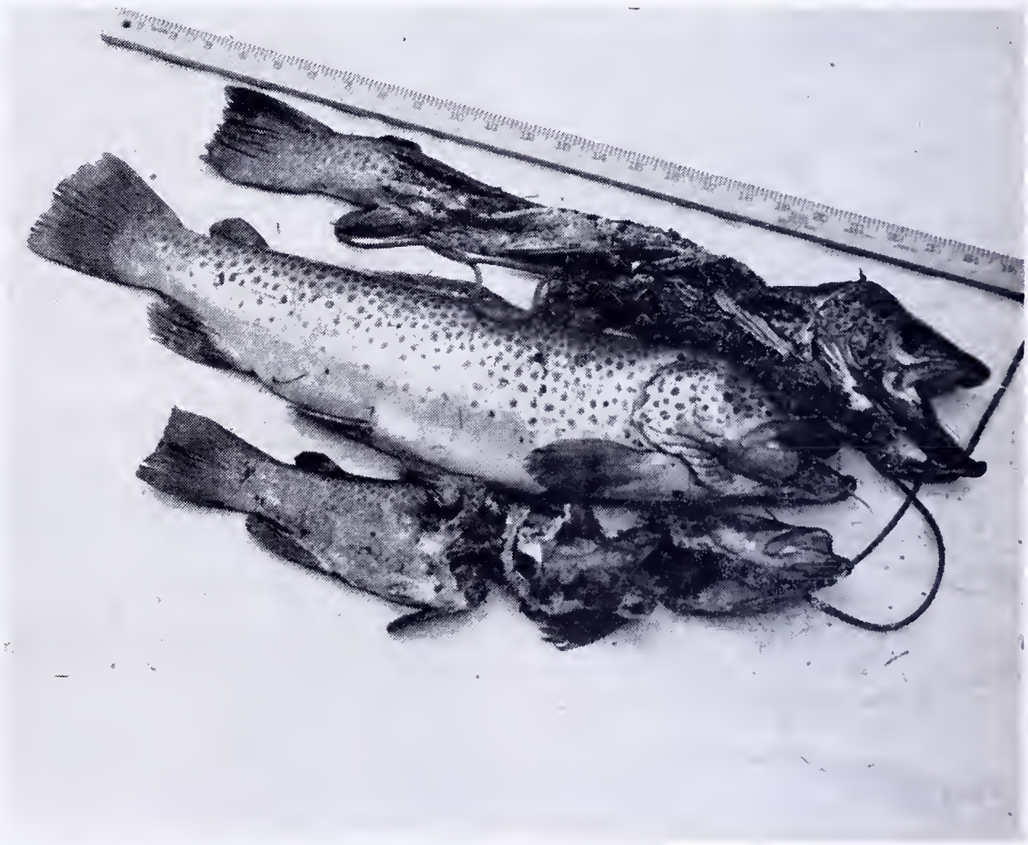
Leonard, James R., Box 123 Cressona, Pa. Drawing down dam without permit 100.00
Swartz, Victor, 146 W. 2nd St., Frackville, Pa. Illegal device 20.00

SNYDER COUNTY

Hockenberry, John W., R. D. 2, McAlisterville, Pa. Operating motor boat without a license 25.00
Kerstetter, Albert, Port Trevorton, Pa. Operating motor boat without displaying license plates 5.00
Newman, Elmer F., R. D. 1, Port Trevorton, Pa. Operating motor boat without a license 25.00
Reinard, Geo. F., R. D. 1, Port Trevorton, Pa. Operating motor boat without displaying license plates 5.00
Sprenkle, Albert, R. D. 1, Port Trevorton, Pa. Operating motor boat without a license 25.00
Woodling, William R., Port Trevorton, Pa. Operating motor boat without a license 25.00

SOMERSET COUNTY

Durst, Henry, R. F. D. 3, Somerset, Pa. Using explosives 100.00
Mostoller, George, Listie, Pa. Violation of the Rules and Regulations 20.00



Illegal Trout at Fisherman's Paradise Proves Costly

Charles Swanson and Dominick Puleo and his wife of Spangler, Pa., while visiting the fish hatchery on the property of Fisherman's Paradise in Centre County were observed feeding the fish. To see the big fellows rise to the surface for the offered bread was too much for the visitors. Using a treble hook baited with bread they had caught three fish, becoming alarmed when a hatchery attendant sensing a violation approached them. Hurriedly boarding their auto, the men and woman sped away with the attendant in pursuit. In their flight they threw the fish from the car.

The next morning fish wardens recovered the trout, partly devoured by animals, as illustrated in the above photo, together with other evidence which led to their identity. Arrested and returned to Centre County where in default of fine and costs, the two men were remanded to the Centre County jail for 100 days each. Several days later both succeeded in paying the fines and were released.

TIOGA COUNTY

Mattison, Thomas L., Westfield, Pa. One undersized trout 10.00

VENANGO COUNTY

Davis, Leslie, Riverside Drive, Oil City, Pa. Seven undersized trout .. 70.00

WASHINGTON COUNTY

Hines, Lucille, 1059 Merilda St., Donora, Pa. Exceeding creel limit 30.00

Novak, Zig, 236 N. Jefferson St., Canonsburg, Pa. Exceeding creel limit 10.00

WAYNE COUNTY

Lillie, Ward, R. D. 1, Waymart, Pa. Fishing in White Oak Pond 100.00

WESTMORELAND COUNTY

Lint, Roy, Bradenville, Pa. Illegal device 20.00

Palmer, Paul, Box 59, Bradenville, Pa. Illegal device 20.00

Wonderling, May, 748 Fourth St., New Kensington, Pa. Unnaturalized foreign-born resident fishing 20.00

WYOMING COUNTY

Balavage, Albert, R. D. 2, Tunkhannock, Pa. Illegal device 20.00

Cary, Charles, Center Moreland, Pa. Illegal device 20.00

YORK COUNTY

Burgard, Horace, 47 N. West St., York, Pa. Operating motor boat without displaying license plates .. 10.00

Dull, Donald, Emigsville, Pa. Exceeding creel limit 10.00

Hoffman, John O., Box 252, Dillsburg, Pa. Operating motor boat without displaying license plates .. 10.00

Smith, Dallas E., Craley, Pa. Operating motor boat without displaying license plates 10.00

Stern, Kenneth, R. D. 1, Woodbine, Pa. Illegal device 20.00

OUT OF STATE

Sager, Oliver S., 16 James St., Meriden, Conn. Fishing without a license 25.00

Ganoudis, Charles, 2603 Monroe St., Wilmington, Del. Fishing without a license 25.00

Harmon, Ernest N. Jr., 578 W. Holywood St., Detroit, Mich. Fishing without a license 25.00

Evans, Charles, 3 Main St., Haverstraw, N. Y. Fishing without a license 25.00

Leasure, James C., U.S.S.N.K., Perry D.D.R. 883, C/o. Fleet P. O., New York, N. Y. Fishing without a license 25.00

Lewis, William, Wellsburg, N. Y. Operating motor boat without a license 10.00

Syersak, Mike, 5 Broadway, Masury, Ohio. Violation of the Rules and Regulations 20.00

Fly lines may be cleaned with a 25 per cent solution of ethyl alcohol and water and then dried with a soft cloth. It is not advisable to grease fly lines that have to be stored.

Summer Resort Bass

(*From page* 6)

bass at this time, in fact maybe the same ones that stay right in these hot spots while the beach is in full swing later in the day. True, waters of this type will definitely lack the eye appeal of wilderness lake and river, but they usually hold fish of greater size, and in greater numbers than the average fisherman realizes. If you happen to live near a popular lake resort of fair size, don't pass it up, fish it carefully a few times, if the fish are there you'll soon know it and will benefit accordingly. You may find that fishing for these out size, educated bullies adds quite a zest to your local angling pleasure.

Nemesis of the Dam Builders

The Army Engineers and the Bureau of Reclamation, in their high-dam-building programs, appear sometimes to win more clear-cut victories on the floors of Congress than most armies ever won on the field of battle. No project is too big for the Engineers to tackle. Yet, they have one enemy which they have been unable to defeat and which must eventually lead to drastic modification of future river programs, the Wildlife Management Institute believes. In spite of their mechanical genius, despite their recognized ability to move mountains and change the courses of rivers, the Engineers have not been able to conquer silt.

Silt is more than mud. It is the displaced, rich top soil of thousands of American farms, grazing lands, and watersheds. Yesterday, the top soil equivalent to that on 200 forty-acre farms flowed into rivers; today e same amount will be lost from the land f- ever. It will cover spawning ground of fishes, clog reservoirs behind multimill n dollar dams, and raise river beds betw n costly levees. Since the Engineers do t know how to attack it, they try to ignor t or to use it for obtaining higher appropr- tions. When a reservoir fills, a new d n must be built; when navigation chann s clog, they must be dredged; when floods - cur, caused by the same mismanagement f the soil that causes siltation, levees must e built higher. Except for this, all the En- neers can do is dredge and straighten ri r channels and rush the silt load out to a as quickly as possible.

Such a program has foreseeable limi- tions. Levees and dams can be built o y so high. There are limits both to the nu- ber of suitable damsites and to the taxpay s' burden. Eventually, the public will rea e what the Engineers seldom admit publicl - that the real management of rivers begins n the headwaters and on the hilltops, that t can be defeated only by keeping it in e form of soil through good land managem t. The present alarming rate of siltation f reservoirs calls for a prompt reappraisal f our river development program; for forc g closer cooperation between the Engineers d the Soil Conservation and Forest Service - both of which are more than willing to m t the Engineers halfway; or for placing e civil functions of the Army Engineers un r a department which sees conservation as m e than a river segmented by dams and c- stricted by levees.

Fly lines are best stored by coiling loos y on a newspaper or a similar dry base. f hung on pegs (wooden), large wide c s are preferred. The coils should be v l spread so that they do not overlap.

Two Japanese, just found on a des t island, said they did not know the war s over. Who does?

Everyone wants in the act at Catawissa Creek on opening day, May 14, after the creek wa stocked by the Fish Commission and the Shenandoah Fish and Game Association.

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

Polluted Waters Can Be Cleaned

Polluted streams can be cleaned if the ople who live along them are determined do it, reminds the National Wildlife Fed- ation. Most striking example of this is what s happened to the Schuylkill River in nnsylvania which has its source in the ountainous regions where lie the anthra- e coal deposits and, flowing south, joins e Delaware in the city limits of Philadel- ia. Three years ago it was black as ink, ed with hundreds of thousands of tons of al dust. These deposits of fine coal were idly choking the stream bed. When the ns came and the snow melted, the waters erflowed the banks, bringing destruction property and lives. Pennsylvania was los- g one of its fine streams. There were other ter courses in the state which were in out the same critical situation. Public atiment was aroused. True it is that in 37 the legislature of the Keystone State ssed the Pure Streams Act, but there re some exemptions pending the discovery methods to eliminate silt and coal dust. en came the war and practically all agita- n was stopped. There were a few, how- er, who never lost sight of the program and ong these were Judge Grover C. Ladner d Governor James H. Duff, at the time, e Attorney General of the state. Led by ese two men the drive to purify the eams was intensified. The Attorney Gen- al became Governor and the Judge was de president of the Schuylkill River Val- Restoration Association. The Governor pointed Admiral Milo F. Draemel, retired, the Department of Forests and Waters d gave him the green light to clean up the er. After less than three years the Schuyl- l runs green again practically to the very rders of Philadelphia. No more coal dust or lm is permitted to be deposited in the eam. Industries have had to build treat- nt plants for their waste, great desilting sins have been provided along the banks ere the coal dust is either dumped or mped in, dams have been constructed and ny other engineering installations have en placed which have changed the black into pure, clean water, as if by magic. ove the city of Norristown, the work has en carried on by the state and about 5,000,000 have been spent or obligated.

This is a three-way project with the city d the federal government, the other part- rs in the clean-up campaign. The Corps Engineers is charged with maintaining the annel and its part has moved along slowly. the present omnibus appropriation bill, ere is provided two and a half million dol- s to dredge out the coal silt below Norris- wn. Four million was the figure originally for this work and a determined effort is ing made to up the appropriation to this ure.

The city of Philadelphia is now installing sewage treatment program that is costing 0,000,000 and, when completed in 1953, will be perhaps the most modern and finest installation of its kind to be found anywhere in the world. The Delaware River runs through or along the States of Delaware, New Jersey, Pennsylvania, and New York and similar treatment is projected for this stream. Some of it is already underway.

Pennsylvania and the other states involved are determined that their streams and their waters are going to be cleaned. What they are doing can, and must be done by the other states of the Union if the increased populations of the future are to have an assurance of pure water for domestic and industrial uses.

Six More Plans Approved

Permits approving plans for sewerage installations have been issued to six additional municipalities and one state institution by the Sanitary Water Board. With the issuance of the permits the applicants are authorized to proceed with construction.

The latest permits have gone to Clearfield, intercepting sewers and sewage treatment works; Whitehall, Allegheny Co., sewers; Upper Moreland Township, Montgomery Co., sewers; Pittsburgh, sanitary and combined sewers; Lackawanna Township, Lackawanna Co., sewers; Trainer, Delaware Co., sewers; Mont Alto Sanatorium, Quincy Township, Franklin Co., additions to sewage treatment works.

The Board also issued on order to Devon Drainage Association, Devon, Chester Co., requiring the abatement of the discharge of sewage or submit plans for the complete treatment of the sewage of the association. The drainage is to tributaries of Little Darby Creek.

Loyalsock as Recreation Area

Loyalsock Creek, which flows through Sullivan and Lycoming counties and flows into the West Branch of the Susquehanna River, has been designated by the Sanitary Water Board for rehabilitation and will not issue permits to any coal mining operation from which acid mine waters will discharge to that stream. This policy was established following investigations of the condition of the stream and upon the fact that it is in a recreational area and recognized as one of the leading trout streams.

This is the second instance in which the Board has set aside a stream for rehabilitation so that it can be devoted to recreational purposes. The first case was that of Emigh Run, tributary of Moshannon Creek in Boggs and Morris townships, Clearfield Co. The Morrisdale dam in that stream, has been taken over by the Morris Fish and Game Protective Association and is being developed for public recreation including fishing and bathing.

Industrial Plants Cooperating

Cleanup of pollution of wastes from industrial establishments has reached enormous proportions in the Philadelphia area under the Clean Streams program. Abatement of industrial pollution is looked upon as keeping pace with the outstanding progress being made by municipalities in providing sewage treatment works. Philadelphia alone is engaged in a $50 million sewerage program which is listed for completion in 1953. Contracts amounting to about $25 million of that sum have already been completed or are under way.

The report covers the area of the Philadelphia District comprising Philadelphia, Bucks, Montgomery, Chester and Delaware counties. It shows that since the inauguration of the present Clean Streams program waste treatment systems installed and under construction at industrial establishments involve an expenditure of more than $25 million dollars. In a number of instances of the larger industrial plants additional treatment must be provided to meet the requirements of the Sanitary Water Board for the cleanup of the streams. In these cases studies are being made to establish the best methods through which this can be attained. Cost of systems at some of the industrial plants have hit the million dollar mark and will considerably exceed that figure to complete the required installations to provide the necessary degree of treatment.

The $25 million figure does not include the cost of treatment systems installed by many industrial establishments before the present cleanup program got under way. The treatment systems installed, under construction and to be built, also do not account for the amount of pollution abatement which has been accomplished. The majority of industrial plants discharge their wastes to municipal sewers under arrangements with the municipality and in those cases the municipality is responsible for the treatment.

According to the district report there are approximately 600 establishments which produce polluting wastes or are potential polluters. Of that number 346 are handling their wastes in accordance with the requirements of the Board and the remaining 254 are under orders from the Board to abate pollution of the streams. Of the latter number 108 concerns are listed as being major polluters, 39 of which are now building treatment works and 18 others have abated. The remaining are in the process of preparing plans, are arranging to connect with municipal sewers or are proceeding in some other manner toward abatement.

A total of 146 cases are listed as producing comparatively smaller amounts of pollution. Of this number seven have treatment systems under construction, 74 have abated pollution and the remaining are preparing plans, arranging to discharge to municipal sewers or are proceeding otherwise toward abatement of the pollution.

Alfarata

By ALBERT LAWRENCE GUYER

I have listened to the classic tale
  Of lovely Alfarata;
Who used to roam o'er hill and dale
  Along the Juniata.
Or in her birchen-bark canoe
  Would glide upon its waters;
An everlasting tribute to
  All Indian sons and daughters.

And likewise have I given ear
  To Doctor Cort's effusion;
But woe is me I greatly fear
  My mind is in confusion.
I can't conceive of anyone
  Much less sweet Alfarata
As ever really having fun
  Along the Juniata.

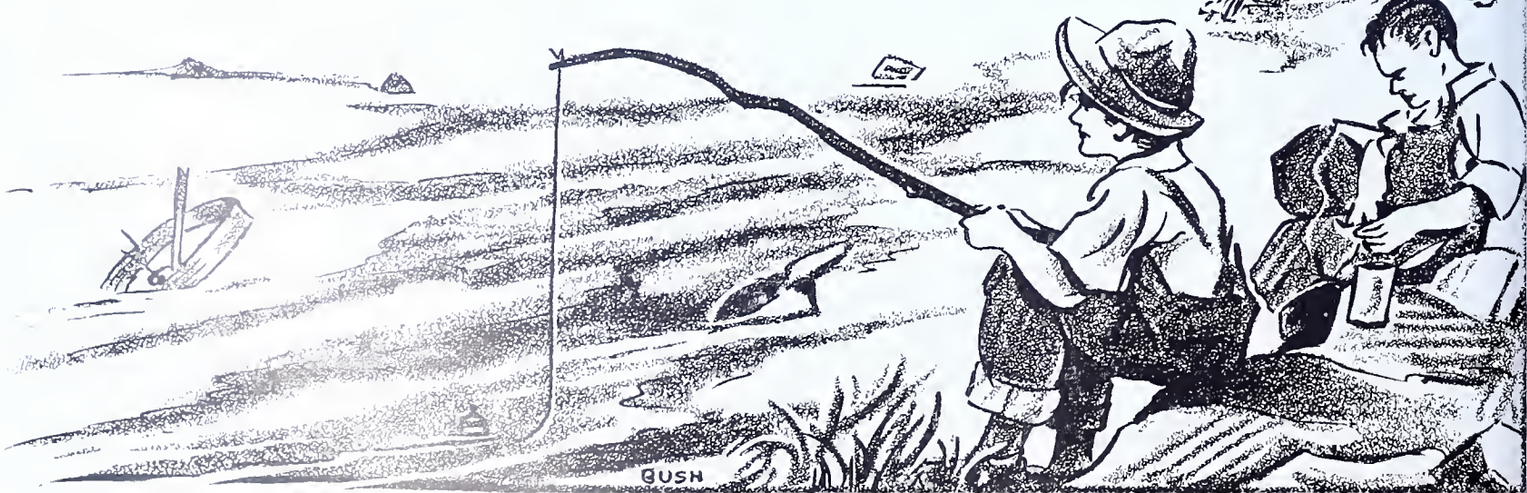
Industrial plant and city sewer
  Oh! murky little river;
Have made the waters so impure,
  It makes our nostrils quiver.
Though poets rave about this stream
  In a manner that is zealous;
Its breath would wreck a buzzard's dream
  Or make a polecat zealous.

Along thy rubbish littered banks
  No Indian maid is straying;
And paleface maids decline with thanks
  On thy shores to go a-maying.
While Legislatures come and go
  And free men still are voting;
Thy waters keep their constant flow
  On which dead fish are floating.

NOW, we have laws within our land
  I'm sure we all endorse them;
Then why not make a sharp demand
  That Our Executives enforce them.
And make rivers free once more
  From all contamination;
So that its waters pass before
  A strict examination.

The little fishes then would feel
  At home, within your waters
The noble trout, the bass, the eel
  And all their sons and daughters.
Thy banks will then become a place
  Of healthful recreation;
For folks of every creed or race
  From any land or Nation.

Then lovers too will seek thy banks
  Oh, lovely little river
No matter what their place or rank
  In limousine or flivver.
And while thy waters seek the sea
  Oh, lovely Juniata
The waves will purer, cleaner be
  For the sake of Alfarata.



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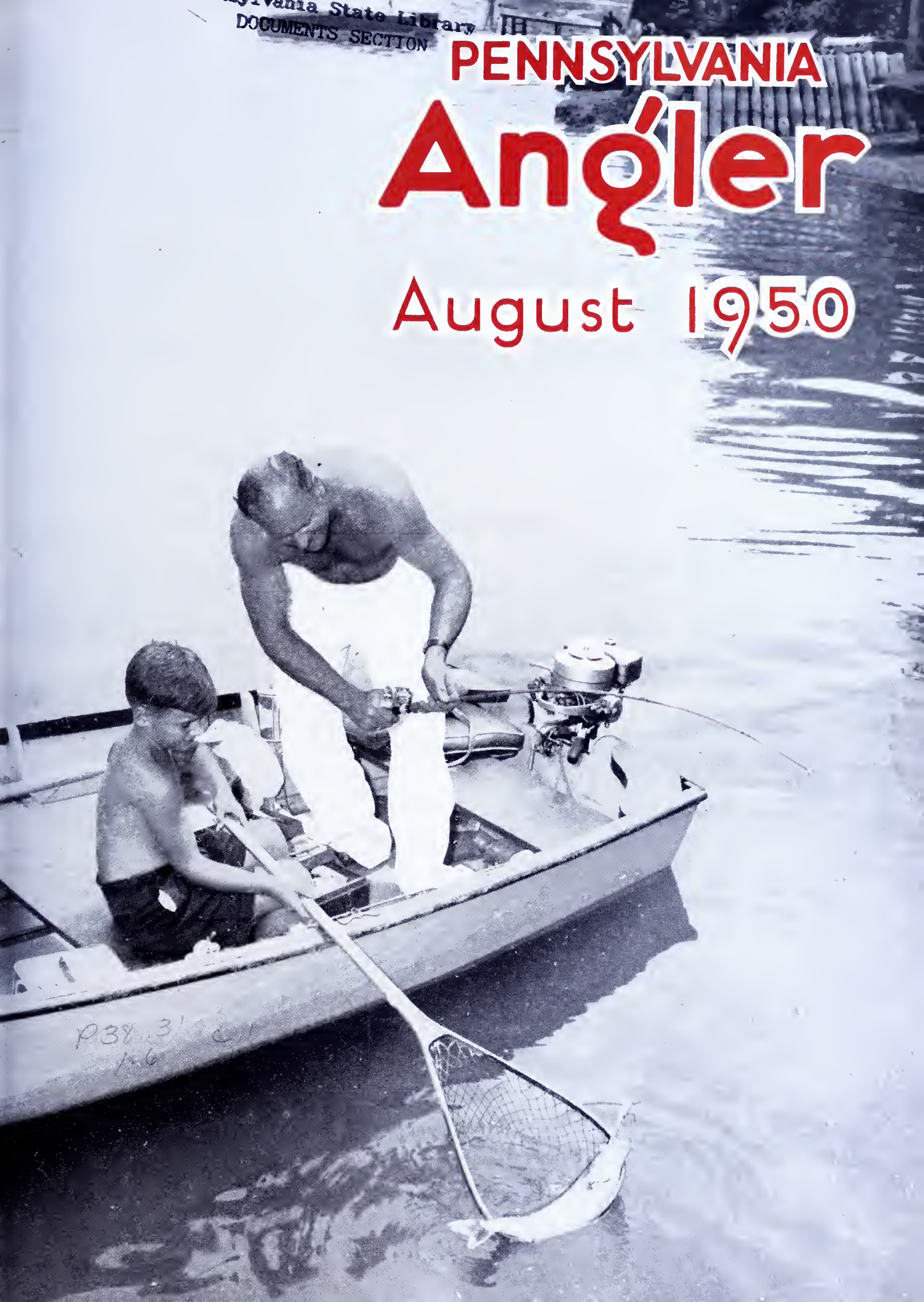

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HON. JAMES H. DUFF, Governor

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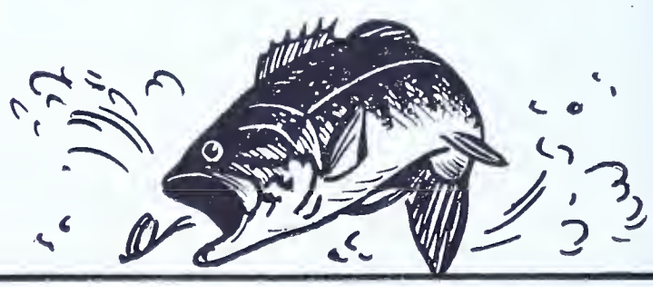

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
FISH COMMISSION
HARRISBURG, PA.

The Angler

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The Cover . . .

Harry Haines and Son of York ollaborate in landing a nice wall-ye from the Susquehanna River at ong Level. Photo by the York Dis-atch.

Vital Needs In Conservation Education

What are the needs in teaching conservation and how and when shall it be taught are questions that every conservationist has asked. There are many schools of thought which have attempted to give the right answer. In the public schools it is said that there already are too many courses for the youthful student to absorb and to add another course on conservation of natural resources would give him less instead of more knowledge. Educators, at least many of them, feel that conservation should be integrated with other courses. What of the colleges and universities? What approach shall they use? Howard H. Michaud, Assistant Professor of Conservation at Purdue University, recently presented a paper on this subject which is both thoughtful and helpful. THE PENNSYLVANIA ANGLER brings you excerpts from it.

In spite of the most idealistic regard man may have for the natural environment and its varied flora and fauna, there remains the fact that human need dominates our behavior with relation to the landscape. Great civilizations developed in favorable geographical areas of the world and frequently fell as a result of a failure to recognize the affinity to their local resources.

Man continues to live, thrive, and multiply according to what the environment may supply. Ignorance and misconceived notions of land use create diminishing returns and eventual degeneration of dependent communities. On the other hand, substantial knowledge of corrective management guarantees a condition of sustained living for man, beast and flower in an ecologically balanced environment.

The current question as to how long the present world civilization can survive on the basis of available food for the Earth's increasing population is highly debatable. It seems more important to foster wise use and management of natural resources on the basis of common wisdom for the establishment of a sound economy. Good husbandry of the soil, the forest, waterways, wildlife, and other resources is a reflection of high moral purpose. Wasteful depletion of the fertile soils, indiscriminate cutting of the forests, streams bursting with liquid filth, diminishing wildlife, and general despoliation of the landscape mirror the results of deterioration of human character.

A modern society that does these things is either not aware of its condition or is calloused to ugliness and signs of moral decadence. It is an obligation of a society to exercise modern technology in maintaining a healthy landscape. All proponents of excessive optimism with regard to natural resources seem to disregard the poverty of the other half of the world.

The chief objective, therefore, of conservation education is to develop proper attitudes with regard to the use and management of natural resources. Each individual interest in the realm of preservation and use must be measured as an integral part of the whole consideration for the benefit of society. Too much conflict arises from those who would "lock up" a given resource and those who see it only as a tree to be cut down, an area to be mined, or a convenience for despoliation.

The sacred rights of the individual can be compensated only through the development of proper attitudes. The aims of society must be clarified when they conflict with the individual's desire to harmful exploita-

(*Turn to Page* 21)

Ecological Sense or Nonsense (VI)

By Alvin (Bus) Grove

IN A previous article four aspects of the general problem of improving our fishing were listed as: Introduction, Propagation (and Stocking), Protection, and Stream Improvement. The first two have been discussed briefly before, and it is our immediate purpose to examine Protection and Stream Improvement.

Ultimately protection rests with every citizen. In some ways the fisherman may be responsible primarily, but obviously the percentage of men and women who fish water is only a small portion of the much larger group who affect water in some way or other. We attempt to arrive at protection by legislation, but this fails unless there is a willingness to co-operate on the part not only of the fisherman but also of everyone else as well. It does little good to establish a creel limit of ten fish per day for fishermen who insist upon catching and killing all that they can. Nor does it do any good to legislate pure streams for industries or towns that flagrantly violate attempts at improving our streams. I have talked with fishermen who killed more than a legal daily creel limit because they were convinced that a paper mill ten miles upstream would pollute the stream and kill all of the fish with poison before the season ended. Such rationalization leads to chaos and no fishing, but so does pollution by paper mills unfortunately. Sometimes too much legislation is just as bad as not enough. In some cases state governments require cities to prohibit stream pollution within their city or town limits only to have the stream polluted outside their boundaries by some federal installation. It is for these and other reasons that final stream protection rests with the individual, and protection by legislation will continue to fail in many instances until we the fishermen, industrialists, engineers, farmers, and small business men make protection our individual concern.

During years past the daily creel limits of our game fish have been reduced, and it would seem probable that it is time to lower them still more. There are of course many objections to this, but with several times as many fishermen and in most cases less fishable water, there can be little choice. It is quite reasonable to conclude that today more fishermen cannot kill as many fish from less water as in the past fewer fishermen have killed from more water. If some means could be devised to make the idea popular with all fishermen that fish are to be caught but not killed, there would be little need to worry about a creel limit; but so long as more fish are killed than can possibly be supplied in the same period of time, some steps must be taken to protect what we have.

Conservation need not mean total preservation, but it does mean that we should harvest a crop in terms of its possible renewal and replacement the next season and the next generation. Possibly some means of revising the daily limit to numbers and pounds of fish could be devised so that the fisherman who is fortunate enough to catch a "lunker" can be satisfied with the killing of one fish rather than five or ten, while the fisherman who prefers the eight inch size, either by choice or necessity, might keep more in numbers. Another alternative to lowering the creel limit might be to propagate and stock more fish, but the cost is high and in general the returns are only about 50%. We can decrease the length of the season, but there are obvious objections, which need not be explained to fishermen. We can limit the number of licenses issued, but this is unAmerican. We can shoot some of the fishermen, but this is murder. What are we going to do? What do we as fishermen think about this problem?

In many areas of the state local clubs and fishermen are interested in improving their fishing. Introduction is not a problem that is considered generally since for the most part trout streams are being improved as trout streams, bass water as bass water, pickerel ponds as pickerel ponds, and so on. The starting point of the thinking of most groups is at the propagation-stocking level, and since little can be done about propagation, their thoughts immediately center on stocking. It is not surprising that clubs arrive at the problem of stocking first, but it is disappointing when it both starts and ends there. Sportsmen's groups are criticized often for wanting to do little with their streams except to stock them. The fact that many groups "want something" is partly the result of their selfishness, but in my opinion is largely the result of a logical program of improvement which by omission of introduction and propagation arrives first at the point of stocking. It is hoped through education and acquaintance with the facts of stream improvement that clubs and individuals will expend as much energy on protection and improvement as they have already spent on stocking.

One needs to spend only several minutes thinking about private waters to understand the problem of fishing improvement. Almost without exception club waters offer better fishing than public streams, and we might learn something if we try to discover

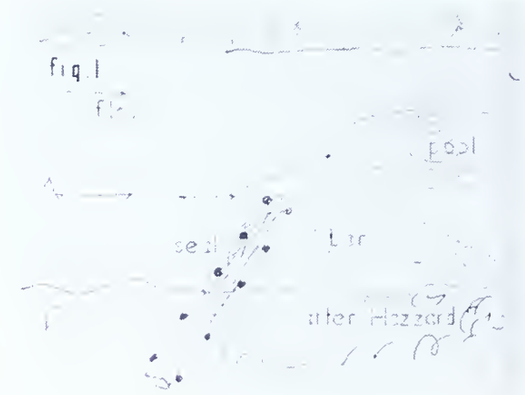

Fig. 1 Single log deflector.

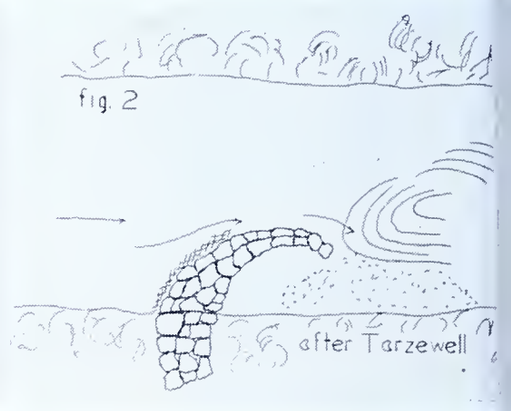

Fig. 2 Rock deflector.

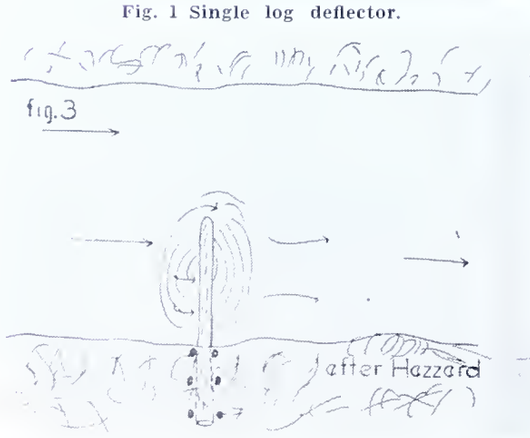

Fig. 3 Digger log.

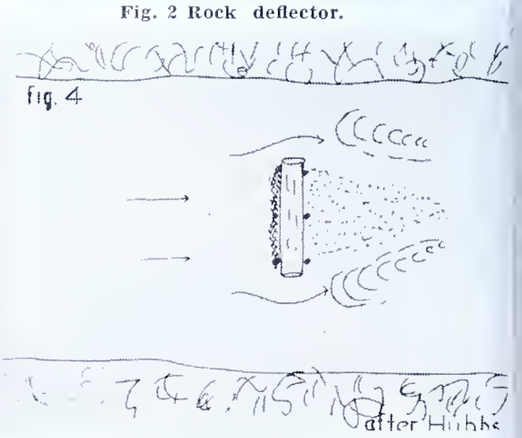

Fig. 4 I-deflector.

/hy. Clubs do not acquire water to sh but rather acquire it to improve ıeir fishing. In their own stream they ontrol not only introduction but also ropagation and stocking. The opporıity to propagate or to buy fish is ardly more than a chance to spend ıeir money and in reality might acount for only a small portion of any eneral improvement which occurs. 'he benefits then are largely protecon and stream improvement, and it is ıese two factors which create private /ater. Ironically enough these are the vo phases of improvement work that ; neglected most seriously on public /ater. Private clubs offer protection) their streams and their fish by esıblishing creel, size, and season limits. ome prevent wading and the removal f natural baits from the stream. Some et aside stretches of water for fly fishıg only. In short they regulate fishıg pressure not only through limitaon of numbers of fishermen but also y all other devices that can be enorced. The number of fishermen on ublic water cannot be regulated, but ıe other devices might be employed nd of course could be if and when the shermen decide that they want them.

Stream improvement is practiced lso on private water. As a result less lting takes place, and better spawnıg beds exist. Fewer floods occur, nd more natural fish food is often resent per square foot of water. If ıese things are profitable on private ater, why do we not consider them or public water? Why do we not have rotection through legislation and selfnposed limitation? Why do we not op the removal of natural foods, preent wading where it may damage the ream, and in general engage in any ıethod of stream improvement feasıle and desirable?

Where proper trout stream improveıent is undertaken, conditions for fish nd fishing can be improved. A good ıle of thumb is to determine what resent conditions are limiting the umbers and distribution of trout and ıen what can or should be done to vercome the limiting factors. The facrs might be in combination, and care ıust be exercised in changing one beıuse of its influence on another. If ıe water is too cold, it might be armed by building dams, but this ıange in temperature might influence ıe kind and numbers of insects presıt that supply the food for the trout. here are some streams so badly in eed of improvement that nearly anyıing which is done is of some benefit, ut too much improvement can be as etrimental to a trout stream as none ; all.

References to improvement projects e not plentiful. Before starting any nprovement work, it is well to examine the conditions that exist on naturally good trout streams in addition to studying such articles as: "Methods for the Improvement of Michigan Trout Streams" by Carl L. Hubbs, John R. Greely, and Clarence M. Tarzwell; "Stream Improvement" by Albert Hazzard; "Insect Life and the Management of a Trout Fishery" by Martin E. Mosely; "Egg Laying Sites for Olives" by F. E. Sawyer; and other publications. It might be wise also to contact the local fish warden, farm agent, and the landowners along the stream that is to be improved. An examination of the Geodetic Survey maps or aerial photographs might be helpful if they are available.

Information acquired about a certain stretch of water is valuable, and knowledge concerning summer stream temperatures, rate of flow of springs that feed the stream, extent of weed growth under usual conditions, number of rough fish present, and natural food content both as to kind and volume is very necessary. Hubbs, Greely, and Tarzwell list the following as fundamentals of stream improvement: essentially pure water, cold water, adequate spawning conditions, good shelter, protection, and adequate food. Our Pure Stream Project is aimed at the first of this list and in the future may provide additional water for further improvement. If trout already inhabit the water to be improved, it might be assumed that it is cold, but this fact should be known with certainty. It is not necessarily so that improvement work leads to warmer temperatures, but it does frequently. Streams that are too warm to hold trout in any general distribution pattern may hold a few fish in deep pools in the hottest weather, but the improvement of such border-line streams for trout water is difficult. There is no practical solution for converting a warm water stream into a cold one, and no amount of bank or stream cover can lower stream temperatures adequately. Where trout water is fed by a sufficient number of springs, further improvement work is feasible, and immediate results may be expected.

Coarse gravel is necessary for the spawning of trout, and care must be exercised that all such areas are not eliminated in improvement work. An examination of a trout stream in the fall might well reveal the kind of stream bed and water flow which trout

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V-deflector.

Dirt wing deflector.

Small rock dam.

Pole dam.

Fishing Streams

By Dick Fortney

FROM some woodland spring a fountain of pure, cold water bubbles to the surface of the earth, or in a swampy field on a valley farm, water oozes from the earth and forms a pool.

The water spills over from its source and sets out on a long tedious journey. It is joined along the way by the overflow of other springs, growing in width and depth as it flows.

Thus brooks and creeks and rivers are formed.

Without them, all forms of life would vanish from the face of the earth. For the water they provide fills reservoirs of cities and towns, turns the wheels of industry, and even through the science of irrigation causes desert land to bloom.

Entirely aside from their economic value, streams offer an opportunity for millions—men, women, and children—to enjoy the sport of fishing.

To the angler, a brook or creek or river should be something vastly more than just a stream of water. It is a marvelous creation—one which the angler would do well to study. Not only will he be more successful in his angling, but also he will discover that his fishing has added charm and thrill when he understands the water in which he is privileged to cast his lure.

The purpose of this article and of the two that are to follow is to make anglers better acquainted with the streams they fish; to enable them to appreciate more fully the wonders of the brooks and creeks and rivers in which they spend so many summer hours.

This first article discusses stream pools. The second will take up the subject of riffles and fast water, and the third will discuss what might be called stream obstructions—undercut banks, pockets, rocks, and other things that provide protection for fish.

Pools are formed in streams by either natural or man-made causes. Usually, a pool forms where the stream bed widens and the flow of the water is slowed. Or a pool may be created where there is a sudden deepening of the stream channel, which also checks the flow of the water. Dams and other obstructions created by man are a further cause of the formation of pools of various sizes—ranging all the way from little yard-square pockets in mountain brooks, to flats of water as much as a mile or more in length in the larger rivers.

There are four distinct parts of a stream pool. One is the riffle that forms at the head of the pool. The second is the area of stiff current where the riffle flattens out into the quiet water of the pool. The third is the main body of the pool, and the fourth is the shallow tail of the pool, where usually another riffle is formed.

The riffle at the head of the pool is vital to the existence of fish life in the pool.

It dislodges food—numphs and larva—which are the natural forage of fish.

And because it tumbles and tosses the water in passing, it aerates—that is, it pumps oxygen into—the water. This is an extremely important function of the riffle in hot weather, when water temperatures rise. Often, as a matter of fact, the water would become

PART ONE

untenable for fish were it not for the fact of the high oxygen content it accumulates in passing through the riffle.

The riffle serves, also, as a sort of "hatchery" for aquatic insects upon which fish feed. Insects instinctively lay their eggs in riffles—and in other moving currents—so that the eggs will be well distributed in the water. The nymphs of some aquatic insects live only in the riffles, where the moving water keeps silt and other waste from depositing upon them and destroying them.

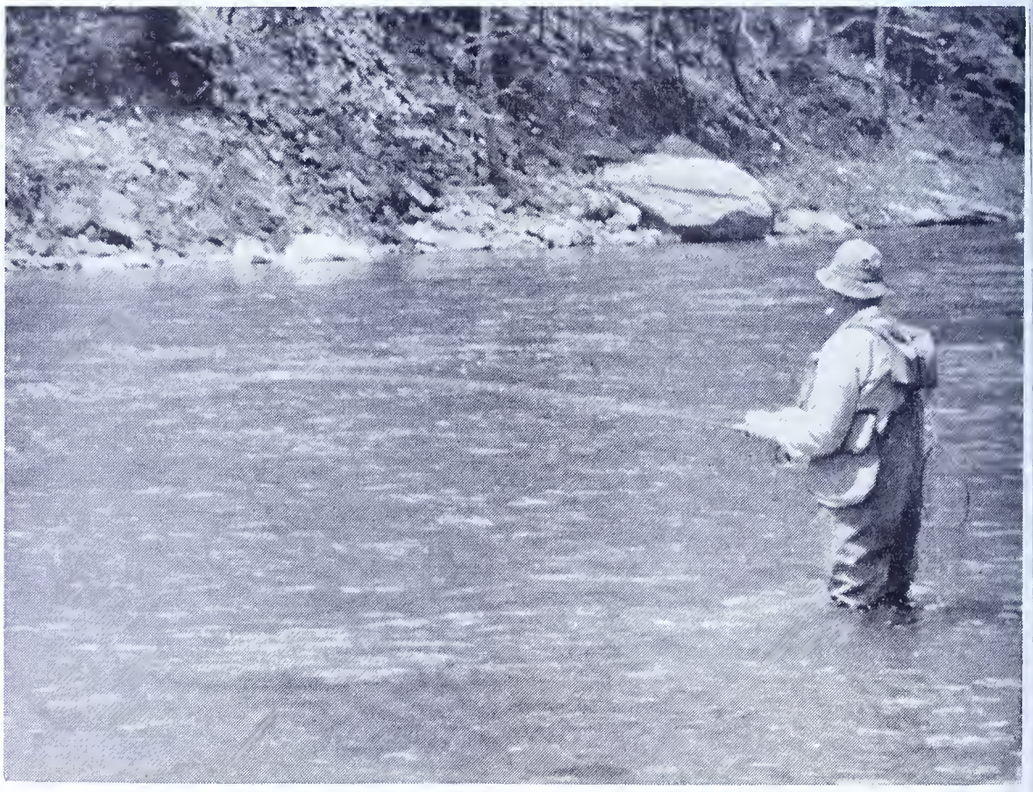
In riffles, finally, there are frequent pockets in which fish find shelter while feeding. No fish will—unless driven by desperate hunger—feed very muc in water so fast that the fish has t exert unusual effort to maintain i position. Fish like to feed in riffle because of the natural food that available there, and they can do s because of the pockets into which the can slip, out of the main force of th current, during their feeding activ ties.

The current at the head of th stream pool—where, as has bee pointed out, the tumbling water of th riffle gradually flattens out into th calm water of the pool itself—als serves an important function.

This current—in larger streams, sev eral may develop in the head of th same pool—carries food dislodged i the riffle down into the main body o the pool. It also mixes the aerate water of the riffle into the water o the pool, and its force serves finall to keep the main body of the pool fror becoming stagnant and stationary.

Next to the riffle itself, this currer or currents are the favorite feedin stations of fish. A trout or bass doe not have to "work" so hard to main tain its position in this current. I fact, the fish can even feed down nea the bottom, where the current has minimum force, because as the wate loses its momentum the food which i carries slowly settles toward the bot tom of the stream.

The main body of the pool makes it own contribution to the safety and lif of the fish that live in the stream. Thi is the refuge of all species of fish. Ofte the very depth of the pool will giv fish protection from their natural an



This picture shows only a section of a long pool in a large trout and bass creek. A deep channel runs through the center of the pool, and the angler is wearing waders so that if trout rise along the far shore he will be able to wade close enough to cast to them.

uman enemies. No predatory snake, or any diving bird, can get at a fish hat has ten feet or better of water as roof over its head.

The main body of the pool also conains obstructions of all kinds which rovide cover for fish. Some pools are aved with huge boulders. In others here are big rock ledges, with hiding laces for fish conveniently carved out. Vater-saturated logs that have sunk o the bottom, dead trees that have oppled into the water, and other natral obstructions are found in almost ll stream pools.

In the pools—where the water is alm yet still moving—most species of ish also find favorable conditions for he spawning that is so essential to naintenance of the fish population.

Incidentally, in larger streams gushng springs often are found in the big ools. The swimmer will notice these s he moves into an area of water that s noticeably colder than the rest of he pool. These springs, obviously, erve to freshen the water and mainain its level.

The final portion of the pool is the ail. Here the water becomes shallow, eading into a new riffle. Here, also, re to be found pockets in which the ish can take refuge when they move ut of the depths of the pool to feed.

The shallow tails of pools are excelent sources of food for fish. Every ngler has noticed, time and again, ish feeding steadily in this shallow vater, and often the heaviest insect hatches observed on a stream will be concentrated on this particular area.

Here is a beautiful pool in Pleasant Stream, a trout brook in Central Pennsylvania. The water is deep and clear, fed by a tumbling riffle visible in the background.

Now the question is: What is the importance of each of these four sections of a stream pool to the angler?

In any stream worth fishing at all, riffles are worth fishing, for the simple fact that all fish—and trout especially—feed in riffles. The same is true of the fast currents at the head of the pool for the same reason. We shall pass over this point with no more mention than that, because the next article in this series deals specifically with riffles.

The main body of the pool is a challenge to any angler—and the wider and deeper the water is, the more difficult it is to fish well. In hot, low water periods of the summer the main pool deserves full and careful attention. For the fish are located in this more comfortable water.

Fish are inclined to "gang up" around spots where springs bubble fresh water from the bottom of a stream pool.

They can be enticed by proper use of lure or bait from their places of refuge in the vicinity of rocks and other obstructions and from the crevices of underwater rock ledges.

But one fact should be noted: The angler who consistently catches fish from stream pools is the angler who has studied the pools he fishes and who therefore knows the areas of the pool which, for one reason or another, attract and hold fish.

The shore-lines of the main body of the pool should have special attention. Hungry fish move out of the deep water into these shore shallows to feed, especially when they are seeking minnows or large insects or frogs that might drop off vegetation or enter the water from the shore itself.

Pockets formed by rocks or vegetation along the shores of pools are likely hiding and feeding places for fish. This kind of water is liked especially by

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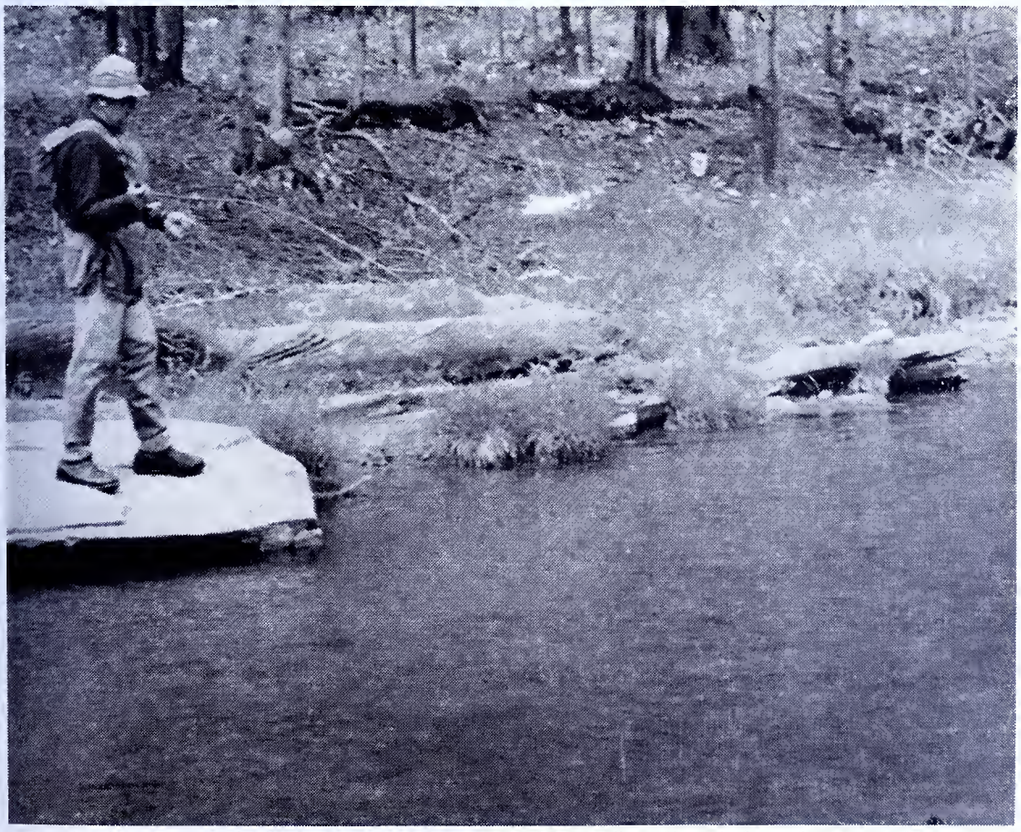

By standing atop this flat rock, the angler can float a fly without drag down a brisk current which flows along the shore of this stream pool, then swings toward the center of the pool just off the point of the rock. When trout feed in this particular pool, they always are active in this current.

Izaak Walton: Where He Fished

By Jim Hayes

THE city of Winchester is a pleasant town—as many of our wartime servicemen will recall—a cathedral town, set in the rolling countryside of Southern England.

Quaint shops and old-style houses stand row on row along the narrow streets, and gray church spires rise sharply against the sky. From the stone bridge a visitor may look down on a stream, the River Itchen, and see fish swimming in the deep currents.

But these are not for catching. On the bridge a sign gives notice that, "Any person taking fish from the river will be prosecuted." For this stream, town officials explain, was once fished by Izaak Walton. And, so great was the rush of anglers, in later years, to drop hooks in the waters once cast by the immortal Walton, it was necessary to post the river.

This is one of the few traces remaining today to remind one that the Patron of Anglers once made his home on the Island Kingdom. Centuries have obscured most of the facts concerning the man. He, himself, left few clues to his ramblings.

In his writings, Walton has little to say of his favorite streams, or even of his companions; although a great deal may be read between the lines. We gather, for example, that his "Brothers of the Angle" were much a part of his days astream. Walton's kind of fishing —"contemplative," as he put it—was the kind best enjoyed with good companions.

Of these cronies, not much is known. The facts are scarce and do not fall into any set pattern. "Whatever light is let in," wrote James Russell Lowell, "serves only to make the abundant darkness more visible."

What we do have are many glimpses of this author-angler who passed so unpretentiously across the scenes of 1593-1683 England; to whom fishermen today pay so much superficial homage, and about whom they know so little; and who bequeathed to the ages such a wealth of literature, angling lore, good sportsmanship and simple philosophy.

We find him casting the Dove, his "Princess of Rivers," with Charles Cotton, or visiting Sir Henry Wotton at the Eton fishing house on the Thames. We see him trudging up the High Road, in the Lea Valley, for a day of casting around Ware.

And while these impressions hardly suffice a biographer's needs, they do exude a certain aura, from a sustained mood, as it were, of Walton and his friendships with rivers and men.

Foremost of Walton's angling partners was Charles Cotton, of Beresford Hall. Cotton, considerably younger than Walton, is described as "a gentleman of the blood, an angler, with one of the best trout streams in England rippling through his lands, a man of taste, a staunch cavalier . . . and a kind, hearty, good-natured young man, reverent to age and respectful toward sanctities."

The stream referred to here, the River Dove, rises near the High Peak of Derbyshire, runs the boundary between the English counties of Derbyshire and Staffordshire, and joins the River Derwent near Newton-Solney. Today, as in Walton's time, it affords excellent trout fishing. American tourists often take accommodations at the Izaak Walton Hotel, in Dovedale, while visiting the Dove on fishing trips. It is not many miles from the site of Charles Cotton's old home, Beresford Hall, set in a scenic English glen, Beresford Dale, which forms the uppermost part of the enchanting valley called Dovesdale.

"My land," wrote Cotton, "stands upon the margin of one of the finest rivers for trout and grayling in England that I lately built a little fishing house upon it, dedicated to anglers, over the door of which you will see the first two letters of my father Walton's name and mine twisted in cypher."

This fishing house was erected in the summer of 1676, just before Walton's last visit to Beresford Dale. It stands today much as it appeared in Walton's time, thoughtfully preserved by the English people as a Waltonian memorial.

Not far below the fishing house the River Dove becomes quite swift, and in one place spreads in a great rock-walled pool. Here was the famous Pike Pool, where Walton and Cotton spent many an evening talking and fishing. Here too was the general setting for Cotton's contribution to *The Compleat Angler,* his treatise on fly fishing.

The friends also fished Bentley Brook, a swift trout stream two miles beyond Ashbourne. With the Dove, the Lea and Shawford Brook, this stream was a favorite with Walton; though Cotton found it not so open as he liked.

"This, Sir, is called Bentley Brook," wrote Cotton, "and is full of very good trout and grayling; but so encumbered with wood in many places, as is troublesome to an angler."

Tangled streams, insects and sudden storms plagued fishermen in Walton's day much as in our own. Rain overtook them on many an occasion, and other times forced them to postpor their trips. Walton, in *The Comple Angler,* has Piscator, his main chara ter, retiring several times to the she ter of trees, "for it rains still."

These inconveniences are alwa accepted with typical Waltonian grac "We'll sit whilst this shower falls s gently upon the teeming earth," cor tinues Piscator, "and gives yet a swee er smell to the lovely flowers th adorn these verdant meadowes."

Still another reference to rain weather is made by Cotton in thes lines which he composed for Walton

If the all-ruling Power please
We live to see another May,
We'll recompense an Age of these
Foul days in one fine fishing day.

These two, then, Walton and Cotto formed the most famous piscatori partnership in history. Cotton refer to Walton as "the best friend I no or ever knew," and as his "father an friend and tutor all in one." Lowe suggests there must have been man a delightful evening which the tw friends spent together after their day' fishing. "Well into the night they mus have lingered with much excellent dis course of books and men," he wrote "now serious, now playful, much per sonal anecdote and reminiscence."

A second of Walton's "Brothers o the Angle" was Sir Henry Wotton, provost of Eton and a Church digni tary. Like Cotton, he too maintaine a fishing house in which he played hos to Walton. The Wotton house was o a green lawn extending down to th River Thames, near Eton, abov London.

Walton commends Sir Henry as "a excellent angler" and as "a man wit whom I have often fish'd and con vers'd." An ardent sportsman and fl tyer, Wotton found fishing relaxing— a sport that "begat habits of patienc and peace" in those that practiced it He often declared he would "rathe live five May months than forty De cembers."

The man to whom *The Compleat Angler* is dedicated, Sir John Offley of Madely Manor, near Stafford, mad up the third of Walton's noteworthy angling companions. On his estat there was, and is still, a pond popula with fishermen. Here Walton fishe after his retirement from London often, most likely, in the company o his host; for he describes Sir John as a most skillful fisherman. Legend has it that Walton scratched his initials on a large stone near Madely Pond, although the stone itself, if it ever existed, has long since disappeared.

Richard Le Gallienne, in his edition *The Compleat Angler*, includes this otice of Sir John Offley:

Lord of the Madely peace, the quiet grass,
The lilied pond, and muffled sleepy mill;
Lord of each legendary fish that swims
Deep down and swift beneath that emerald grass;
While, soft as shadows, round its grassy rims
The patient anglers move from east to west,
Patient at morn, at evening patient still—
Peace, if not fish, was theirs, and peace is best.

All but lost in obscurity are Wal-n's other angling friends. Patrons ho stopped at his Fleet Street shop ust often have discovered that their oprietor had "laid aside business, and gone a-fishing with honest Nat and R. Roe."

This reference to laying aside business makes it a near certainty that Nat and Roe were London acquaintances, and fixes the fishing locale as the River Lea, on which the scene of *The Compleat Angler* is laid.

While residing in London, Walton often fished the Lea, which has its confluence with the River Thames a little below Blackwall. Six miles upwater is Tottenham, where Piscator overtook Venator and Auceps; Waltham Cross and Cheshunt lie to the left of the present Enfield Highway, called in Walton's day the High Road, and to the right is Waltham Abbey. Directly north is Wormley, and, near the Lea's headwaters, Ware. Bleak Hall, where Piscator and Venator met the Milkmaid and her daughter, is about one mile above Edmonton. The Thatched House, to which Venator was headed for his morning draught, was on the Ware Road about seventeen miles above London.

Fishing trips and good companionship enjoyed in this region provided the inspiration for the immortal *Compleat Angler*. For, as Walton himself said, "The Whole discourse is a kind of picture of my own disposition, at least of my disposition in such days and times as I allow myself when honest Nat. and R. R. and I go a-fishing together."

The Lea, certainly, was one of Walton's favorite waters, as gentle as Shawford Brook. Following his retirement from London in 1644 due to the Civil War, Walton returned to Staffordshire, where he settled in a cottage by the River Stowe. Here, about five miles from the village of Stafford, his birthplace, he loved to "loiter long days by Shawford Brook," and to fish the many streams and ponds of the district. Here he found quiet refuge from the turmoil of war-wracked London.

In later years, Walton made his home with his daughter in the town of Winchester. His leisure time here was spent in fishing the River Itchen, in reading, writing, and roaming the countryside which, years later, was to inspire John Keats' memorable poem, "Ode to Autumn."

While the Itchen is posted from fishing by the City of Winchester and most of the streams fished by Walton are privately owned, many still offer casting sport for contemporary English anglers as well as for visitors from all over the world.

Among the trout waters mentioned in *The Compleat Angler* which are fished today are the Rivers Dove, Derwent, Severn, Test, Rye and Manifold; and Henmore Brook, and Lake Windermere.

Walton's angling journeys took him over much of England. Beside the places already mentioned, he also fished in Kent, for he wrote that he knew a stream there that produced trout "remarkable alike for their numbers and smallness."

Whether or not Walton was a truly skillful angler has stirred speculation down through the years. By standards of his own day, he undoubtedly was. He used no reel, knew little about fly casting, and subscribed to many false notions about fish culture. But, from a practical viewpoint, he knew his sport. Charles Cotton, who was one of the greatest sports authorities of the 17th Century, said Walton knew "as

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Illustration by Bill Winstein

Try Flies for Bluegills

By Don Shiner

IF YOU really want some fine angling sport which is sometimes hard to find, since the fishing pressure seems to be on the over-pressure side on almost every trout and bass stream today, try fly fishing for bluegill sunfish on light trout tackle. There's sport galore and damn few other anglers to bother you!

The feeling of many anglers towards this pan fish is that these small members of the fish clan are strictly reserved for the small boys and girls armed with a willow limb, bent pins and a can of worms. This may be due to the habitual picture always presented of a bare footed boy holding a "sunnie." While undoubtedly this pan fish is a wonderful fish for the young angler to learn of this bewitching game, let us not be too high brow and not include these fine gamey fish to really round out our beloved sport.

The pan fish usually are associated with live bait of all kinds and little consideration is given to light tackle, small artificial lures, and the sport which can be derived from them. The angler who has used light weight tackle—3 ounce fly rod, small trout flies and lures, and fine gut leaders—will tell you that the bluegills are gamey fish and can be had when bass and trout fishing seems to be "off." However, it seems to me that since the sunfish are so abundant and gamey, they deserve a lot of followers. Undoubtedly this would reduce the heavy angling pressure on some of the fast diminishing game fish. Recognition of these little gamey sunnies and angling for them would provide heavy creels which now are often empty from fruitless trout and bass angling, and it is game enough for even the most addicted trout purist!

He's a pugnacious powerhouse and what he lacks in size he makes up in temper, spunk and sparkling color.

He may not do aerial acrobatics for you like the bronzeback bass, nor the savageness of the brown trout, but hook him once and he's a raving hysterical spit-fire. He'll snap your 3X leader in due time unless you pull in your eyebrows and settle down and learn to cater to him.

Somehow, the average bait fisherman won't speak thusly of these pan fish and would swear the description is of some other finned creature. However, in some sense of the word, they would be correct since bait and still fishing for sunnies is, without a doubt, slow and dull sport when considering the other methods of capturing them.

Consider the light tackle possibilities and another light may be shed upon them.

The rod is the singular item which needs utmost attention. A light weight rod of three or four ounces is ideal. The flexibility of a rod of this nature will bend and arc to the sudden mad and dashing tugs of the bluegill. A two piece rod of 7½ to 8 feet weighing in this category is the rod to choose. Re-

Dry flies, the same use when trout fishing e ideal lures for panfish.

member too, a line must fit the r, and generally an HEH or E level l will work well for the light rod m tioned. Seven and one-half to 9 f tapered 3X leaders should be cons ered since big bluegills, those up twelve inches and weighing nearly pound, are gut shy and as weary s any trout. Not omitting the lures, t constitutes what is termed "light" t kle, and it can be readily noted t the list is somewhat different from t fishing necessities.

The sunnies are great feeders a are not inclined to allow a tasty mo of food to escape, be it on the bottom the lake or stream or a float on e ceiling of their domain, unless t sense that danger is present.

Therefore, in connection with e above light tackle, small trout dry a wet flies are an effective and spo way of taking bluegills. It is no a difficult way of fishing, but on the c trary, ten minutes after using e freshly purchased store tackle, e novice as well as the expert can e dropping pint size powerhouses i the willow creel.

Dry fly fishing perhaps offers e most pleasing sport, not omitting e easiest method since the rising a taking of the fly by the sunnie is in view of the angler. Quite differe too, from dry fly fishing for trout a the ever cursed handicap of "dr on a floating fly, the bluegill can e teased into a frantic rush for e feathered lure by merely twitching e fly and dragging the hackled h across the surface of the water. T sunnie will cause a swirl, a small a ble smack and the fly has disappea Merely by a quick lift of the w you've set the hook and the cr battler dashes in mad circles.

Not all trout flies are suited dragging across the surface as t soon absorb enough water to sink th out of sight. However, an over dos fly dressing will help this little mat but for even less care, an overhack

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The pound size bluegills are power stacked!!

Horned Dace and Golden Shiners

By Bill Wolf

(Editorial Note: Trout, bass, wall-eyed pike and similar major game species hold the spotlight in Pennsylvania's angling interest, but there are many lesser fish which also provide good angling, or are of especial importance as bait or food for the larger fish. This is one of a series of articles dealing with these minor fishes of the State.)

ALTHOUGH both the horned dace and the golden shiner belong to the innow family of *Cyprinidae,* they row large enough to be called fish, nd both are taken frequently by fly nd bait anglers in our streams and kes. In fact, it's sometimes difficult keep horned dace off the hook hen casting on a trout stream, and ney can make quite a nuisance of nemselves, especially when they reeatedly sink a dry fly.

However, they make good bait and ood fish for the game species, and erve in their humble way to keep ings balanced in our waters. Furtherore, they give the boy who is just arting fishing some of his first rills—and even older men.

Recently, I took with me three dults who had never gone fly fishing their lives. We were after trout, ut the trout hadn't been informed nd didn't know we were along the ream. But the horned dace made a ccess of the day. Remember, this as the first fly fishing trip any of e trio had made. They were learng the rudiments of casting, and andling the rod and line. Therefore, ny strike at all was exciting, and e horned dace were active as always.

They went on happily for two days, king the horned dace and sunfish om the stream, and never worried out not catching any trout. They ere proud of a seven-inch fish, and was I, to tell the truth, because e horned dace seldom runs much rger, although one-pounders have een reported. I never saw such a rge one. The maximum length reorted is one foot.

In like manner, the golden shiner ften will hit a fly, but it lives in ntirely different water as a rule. The orned dace likes clear creeks, the olden shiner prefers quiet, shallow vater and, therefore, is frequently ound in ponds and lakes, or wide flat tretches of streams. Both are enountered over most of Pennsylvania.

Both are handsome fish on a small cale, and both have innumerable liases.

In fact, during boyhood I never ven heard the name of horned dace pplied to that fish. It was the hornosed chub to me, and the bull-headed hub to some of my neighbors in the ountry. Elsewhere it is known as he creek chub.

The horny tubercles on the head, which give the fish its name, are found nly on males during the breeding season. The truth of the matter is that the horned dace is the plain chub we find in streams, except in breeding season, when it develops some bright red on its fins and the "pearl" organs on its head. It is not a separate species, and creek chub probably should be its standard name, but it looks so entirely different and colorful in spring and early summer that it is mistaken for a distinct kind of fish.

In its smaller sizes, the horned dace or creek chub is a first class bait minnow, hardy and plentiful. In fact, over-netting and trapping has all but eliminated it in some regions where the demand for it as bait is particularly heavy. In bait size, it seldom has the horny tubercles and is known simply as a "chub."

Where too abundant it is a serious competitor with trout for food, since it prefers much the same diet as trout. Watch any fairly quiet stream, and you will see the horned dace feeding throughout the day on insects and other aquatic life. They rest in pools under trees, and leap clear of the water to seize what food falls from the branches. They seem to be always hungry.

Sometimes there are so many that they look like a cloud in the bottom of a fairly quiet pool. They do not always live in quiet water, though. I have taken them on flies in the same roaring, turbulent mountain water that trout inhabit. There is something amusing about the stubborn, persistent way in which a single chub will feed by the hour in one spot, seeking to fill an endless stomach.

Like most of the poor men in the fish world, the male horned dace is the home builder. He constructs a nest of pebbles and stones, and defends it vigorously, using the horns on his head to fight off intruders. It is somewhat polygamous since more than one female will lay her eggs in a male's nest.

The golden shiner has a greater

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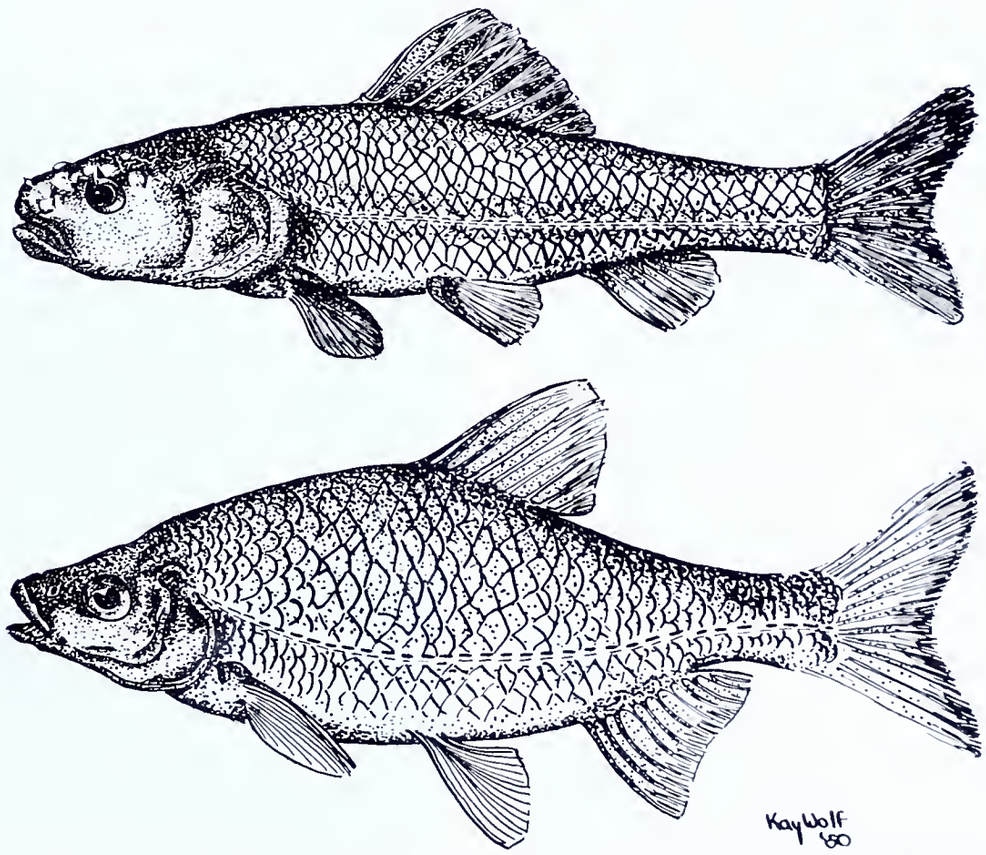


Top, the horned dace (Semotilus atromaculatus), and, bottom, the golden shiner (Notemigonus crysoleucas), both important bait and food fishes in Pennsylvania.

The Effect of Industrial Wastes on Fish

By C. S. Myers
Sr. Chemist
Penna. Sanitary Water Board

WHENEVER a fish killing occurs in Pennsylvania the Sanitary Water Board is as much concerned as is the Fish Commission, because a sudden killing usually indicates that the laws concerning pollution of the waters of the Commonwealth have been violated.

Since the interests of better fishing have much in common with those of other recreational activities, as well as with property values and with factors concerning general health, it is only natural that the Fish Commission and the Bureau of Sanitary Engineering of the Department of Health have united facilities for the study of the effects of stream pollution on fish. With the assistance of funds appropriated under the Federal Public Law 845, the labortatory of the Fish Commission, located at Pleasant Gap, has been equipped to permit controlled studies of the harmful effect of various industrial wastes on fish life. For the past few months such studies have been under way at the hatchery.

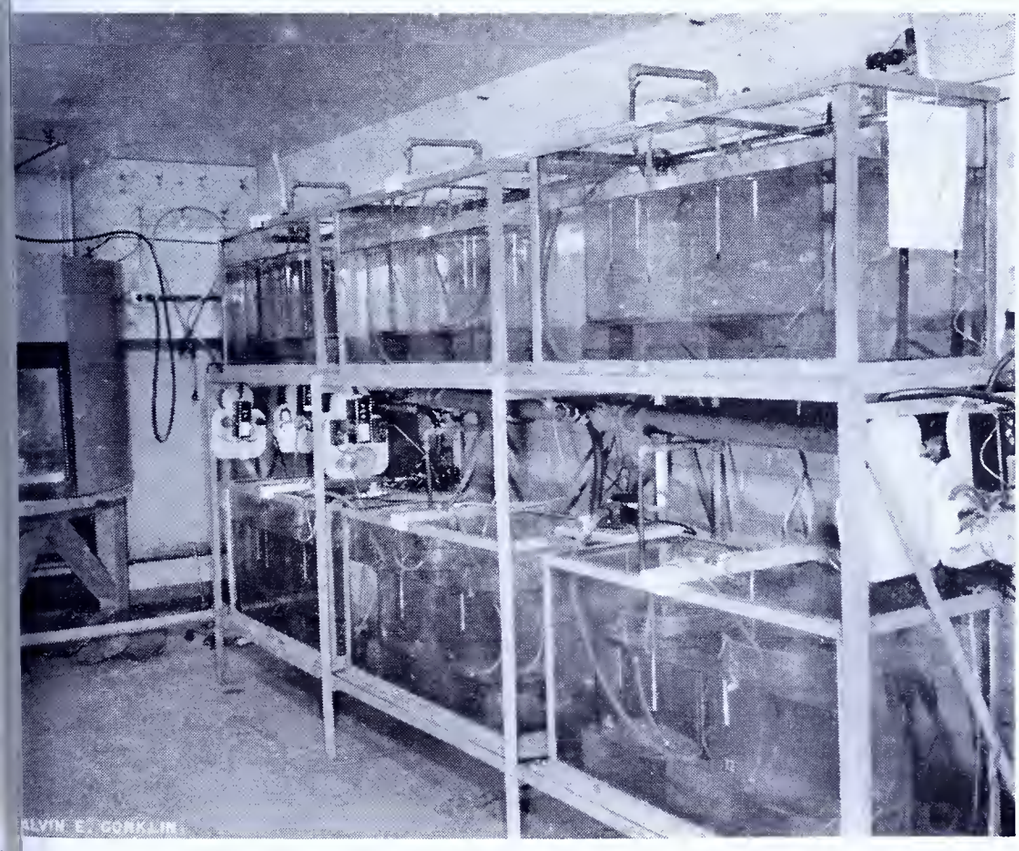
Useful experiments to determine the effects of different amounts of polluting substances on aquatic life are necessarily complex because of the many things which must be controlled. It is desirable to keep the temperature from changing more than one degree from the selected experimental average; the oxygen dissolved in the water must be kept within certain narrow limits; and any changes in the concentration of the natural or added substances dissolved in the water must be carefully checked. All this requires rather complicated apparatus, and numerous chemical tests and readings, to be made often within hourly periods. For these and other reasons considerable time is required in order to accumulate reliable data. However, in the short time during which the present work has been in operation, useful results have already been obtained. It is hoped to extend these results, in the future, to the point where they will aid the Sanitary Water Board in arriving at standards of practice for the treatment and discharge of various wastes. This problem is complicated by the fact, covered by the law, and accepted by every fair-minded angler, that industry must be allowed to use, but not abuse, the waters of the Commonwealth.

Regarding direct harmfulness to fish life, and to aquatic life in general, industrial wastes are probably the chief offenders. Therefore, it is the Industrial Wastes Division of the Bureau of Sanitary Engineering which, together with the Fish Commission, is conduct-

Photographs above and below show the interior of part of the laboratory, with the special equipment used for the chemical analyses of water, wastes, and of the fish themselves after the have succumbed to sufficiently larg amounts of the toxic substance, o waste, being tested in the laboratory

Photographs above and below are the aquariums in the chemical laboratory. It is here the fish are first acclimatized to conditions of temperature, dissolved oxygen and environment after they are brought in from their wild environment. It may be noted in photo above that sunfish are used in the particular experiment shown. It is intended, later, to experiment with hatchery trout, and perhaps bass, of different ages.

The same photograph shows the six large water baths with automatic temperature control and circulating devices. Each bath contains two cylindrical aquaria in which actual toxicity tests are made. Usually ten fish are used in each of these aquaria and a time and behavior record is kept for each group of fish for the duration of the test. To date, each test has run for a period up to one week. A considerable number of such records must be collected for each substance, or waste, tested.



ing the experiments at Pleasant Gap.

Thus far, tests have been made on phenols which occur in wastes from gas works, coke ovens at steel plants and elsewhere, oil refineries, and various chemical manufactures. Experiments are about to be completed and published on wastes containing the highly poisonous cyanides which are found in wastes from some metal-plating and certain types of blast furnace operations. Also, work has been recently begun on the effects of fly ash on fish life, in connection with a special problem and in order to prevent any harmful effects to the fish life of a popular and ideal fishing area.

The practical, as well as recreational, value of the elimination of serious pollution from our streams needs no proof. This work at Pleasant Gap state fish hatchery is one means toward attaining that goal with fairness to all concerned.

Outdoor Vandalism

We have sounded off on this subject many times, but a letter from an irate trout fisherman impels us to do it again.

"The bloke who thought up the idea of using tin cans as containers for beer," the letter begins, "may have conferred major benefits on the human race, but he overlooked one point. He forgot that a few morons chucking empty cans into a trout stream soon convert it into something far from a thing of beauty and a joy forever."

After citing personal experiences in littered streams, the writer asks:

"Isn't there some way to cure such damn fools of their bad manners? Haven't they brains enough to realize that they are spoiling the streams for themselves as well as for everybody else? Can it be that they *like* eyesores and feel bound to create them for their own enjoyment?"

We wish we knew the answers. Certainly we agree with this fisherman on every point except one. We can't see that beer cans are any worse than food cans, bottles, and the rest of the miscellaneous rubbish that's found in many a trout stream nowadays. And the conditions he describes are by no means confined to trout streams. Go a little deeper into the woods and take a gander at the miniature city dumps that campers and picnickers have left as tokens of their enjoyment of the outdoors!

We'd like to see somebody come up with a plan to curb this nuisance.—*Outdoor Life.*

Underground Waters Polluted

The Sanitary Water Board has issued orders to seven industrial establishments, all located in Berks County, to discontinue pollution of underground waters or submit plans for treatment of their wastes. Investigations revealed pollution of the underground waters and by the use of tracer dyes and the assistance of the State Geologist, have determined the sources of the pollution, according to the report to the Board.

Black Bass on a Black Night

By Keith Schuyler

WHEN what started out to be a trip for trout got sidetracked into a battle with a muskellunge, it ended up in the most exciting half-hour of bass fishing I have ever enjoyed.

It was one of those trips where lack of planning defeated our purpose before we got started. But, when Jack and I set out from our central Pennsylvania home town to find a trout lake in Algonquin Park in the province of Ontario, we carried with us the same enthusiasm that accompanies all fishermen.

Leaving Pennsylvania on a late afternoon in August, we arrived at Pembroke, along the Ottawa River, by mid-morning of the following day after continuous driving. We were after brook trout, but the sight of a twenty-five pound muskie taken from the Ottawa that morning prompted us to stop at a sporting goods store for a gaff and some extra large treble hooks.

However, our plan to head up the Ottawa in our light kyak, powered with a 3.2 h.p. outboard, was discouraged by local residents who told us an "easy" way to get to good trout fishing just inside Algonquin Park. Following directions, we secured a park permit and then headed back into the bush to the Barren River. It would be nine miles up the river to the first of three portages they had told us.

Planning to stay three days, we brought enough provisions for three weeks. And, after more than twenty-four hours without sleep, we groggily tried to get all our supplies into the kyak. We almost succeeded.

Then, with our airplane-fabric covered boat more submerged than afloat, the waters of the Barren began to part under the urging of Jack and our little outboard.

I sat in the front seat attempting to enjoy the scenery through drooping eyes as the black Barren slowly narrowed to the deep trough that is contained in the nearly perpendicular rocky sides. We had to go slowly as submerged logs threatened the fragile sides of our kyak with their ugly noses showing just beneath the surface. Although the kyak normally moves smoothly under one paddle, we were drawing so much water that the outboard was having a tough time carrying us up the slowly moving current.

"Be careful, the river runs 100 feet deep in places," the natives had warned.

I was beginning to wish that we had brought a boat no less protected than a destroyer as the water became more strewn with floating logs from old lumbering operations. But then the river widened a bit, and leaves of the tiny, long-stemmed water lilies began to give proof that the stream was shallowing.

"Cut her off, and let's see if we can pick up a pike for lunch," I suggested as a shallow cove gave promise of good fishing.

Jack switched off the outboard and sighed heavily. It had been tricky and tiresome work navigating our tiny craft through the treacherous black water. We attempted to relax a bit in our cramped quarters as we each fastened a spoon to our casting lines and heaved them toward the little lily pads.

I was using a red and white spoon and allowed it to sink deep into the murky depths before beginning a slow retrieve. On the third cast I became caught almost immediately. Muttering under my breath about the blankety-blank logs, I put as much pressure on the line as I dared to pull the kyak toward the spot.

Then I felt a throb: my line began to move!

"I've got a good one on," I gasped to Jack as the prow of our boat dipped to the pull on my rod. There was little disturbance, only the hiss of the twelve pound casting line cutting the surface with a smooth V that marked the course of the savagely throbbing weight somewhere deep in the water.

Once my thumb accidentally struck the line above my reel and it twanged like a bow string. That light line couldn't take much of that; I eased a little of the pull to the fish. The line passed in front of the kyak and headed back to my left. Cautiously, I snubbe him up a bit, and he turned.

"Better get the gaff, Jackson," I su gested in the only words that had bee spoken as we both watched the bo bing of my doubled casting rod.

Then it happened.

Just ahead of the kyak the riv exploded, and wreathed in the su speckled spray was a twisting, sava brute of a fish that couldn't be an thing but a muskellunge. Just befo he crashed back into the black rive he shook the spoon far to one side. had forgotten to attach the extra lar treble hook we had purchased for t purpose.

The ripples had almost quieted ov the hole that had swallowed the mu kie before either of us spoke.

"What a fish!" exclaimed Ja simply.

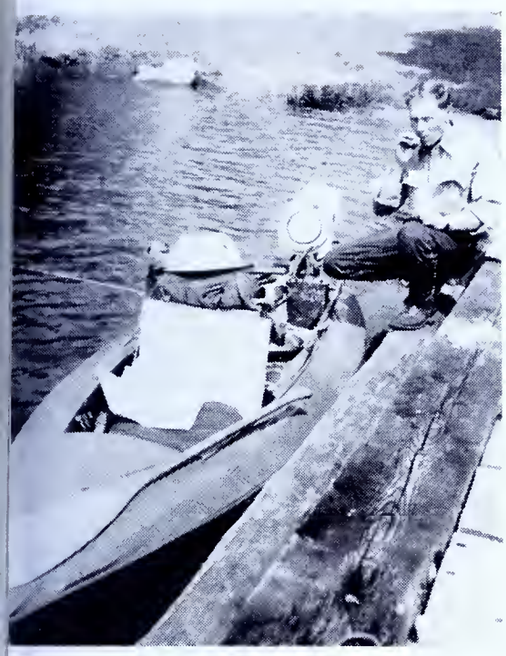
We had seen a muskellunge of twe ty-five pounds that morning, and t one that had just showed himself cou have worn the same clothes. I look at our boat, in which it would ha been difficult to land a sunfish, a then at Jack. Both of us were thin ing the same thing.

"What in hell would we have do with him if he hadn't got away?"

Of course, we worked that co pretty hard after that, but Jack w impatient to move on. Again we tra eled cautiously up the river toward faint roar that we had been to marked the first portage; over ni miles from our starting point.

We finally pulled up to the foot an old log chute near the forty-fo

The point from which I caught the first bass.



There was no room left in the kyak for a muskie."

alls that sent the Barren down the narrow gorge from which we had come. On cramped legs we climbed round the falls to find the upper river even more treacherous than the lower portion. And, by that time, the mosquitoes had found us.

After a hearty lunch, we fished the foot of the falls without luck while each of us wondered what the other was thinking about those trout. They were in a lake off to the side of the river two portages way up above.

Finally, I looked at Jack; he looked at me. We both looked at the mosquitoes, the portage, the overloaded kyak. Slowly we put our rods back into the kyak, each took a firm grip on the boat, and then we shoved it back into the water.

The trip back down the river went much faster. Another try where I lost the muskie brought us two small walleyes, but we didn't tarry long. As we neared the camp at which we had left the car, a muskellunge of but 24 inches smacked my red and white. In the short time it took to catch and release the muskellunge, a turtle got one wall-eye and part of the other from the stringer.

We left the Barren; barren.

Heading south, we took turns driving and attempting to sleep until we hit the Rideau Lakes and stopped off at the cabin of an old friend of ours on the Opinicon. We knew we could get some fish there, and more important, some good sleep. By the time we reached the cabin, it had been 48 hours since either of us had been in a bed.

That day we spent catching up on our sleep until our friend Ray came down to the lake and offered to show us where we could catch a few bass to take home in place of the trout. Meantime, I had been amusing myself catching the large bluegills that abounded about the cabin. Using a trout fly, it was no effort at all to catch a sunny on almost every cast.

In the early evening, we took one of Ray's boats out to a weed bed that had been producing. Our total catch consisted of one small largemouth which we threw back. It was almost completely dark by the time we returned to the cabin, and things were getting desperate.

So far, all we had been doing was running around without catching any fish. I stopped for a chat with Ray while Jack went inside to hit the sack. Fish were jumping along the shore, and I wondered.

"Do you do much fishing after dark here?"

"No, there's not much use," answered Ray. "After the sun goes down, they seem to lose interest."

"But," I argued, "just listen to them jumping."

"They're nothing but rock bass," he assured me. "They'll hit anything you throw at them though if you want to fish for them," he encouraged. Then, explaining that he had chores to do, Ray left leaving me feeling anything but encouraged.

I stumbled through the dark to where my fly rod was resting against a tree. With the aid of my flashlight, I removed the number 12 royal coachman from the slender tippet and put it into my fly box.

Digging around in my bass tackle, I came up with a deerhair fly with large tufted wings, yellowjacket body and red tail. That was an awfully large fly to tie on the 5X tippet, but I was disgusted. Anyway, it would hold a rock bass.

Crossing the grass to the small stony point, I cautiously cast the hair fly in the direction of the splashing. Almost immediately I snagged into a good sized rock bass. After the splashing struggle characteristic of the rockie, I released him and again cast out into the darkness. Only the stars provided any light, and it was an uncertain business trying to skip the fly across the water. But, again I hooked into a rock bass. Well, it was fun, anyway, and the rockies were heavier than the bluegills.

Then, wham! I was hooked, and it was not a rock bass! Back and forth in the darkness my trout rod followed the hidden tracings of the slender leader while I cursed myself for not having my net. I did not dare

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Ellwood City Girl Chosen Fishing Rodeo Queen

As the highlight of the monthly meeting of the Ellwood City-Wampum Rod and Gun club Monday, June 12, in the clubhouse on the Ellwood-Wampum road, J. Allen Barrett, public relations director of the State Fish commission, substituting for Governor James H. Duff, presented a certificate of award to Miss Virginia Chinchi, thus declaring her the "junior fishing queen of the state of Pennsylvania."

Better Fishing, Inc., a not-for-profit organization of sports fishing devotees, with headquarters in Chicago, is national sponsor of the Better Fishing Program for Boys and Girls which annually fosters natural resources classroom contacts and a ten-week period of "Adventures in Fishing" leading up to youth fishing fun fiestas held on the fourth Saturday of August which is designated as NATIONAL BOY AND GIRL BETTER FISHING DAY.

Miss Chinchi was the winner of the fishing rodeo held here last July and later won the state title.

Mr. Barrett, in his presentation, related many interesting fishing facts and tales of Pennsylvania fishermen. He lauded the interest displayed in inviting the boys and girls of our state into the great fraternity of fishermen, and insisted that if this great outdoor recreation is to be sustained it is necessary that the boys and girls of today be educated to the conservation measures involved, for it is they who will take over tomorrow.

John Volger, chairman of the Ellwood City fishing rodeo, presided as master of ceremonies. He presented Burgess Clyde B. Houk, who expressed appreciation to the fish commission and to the local Rod and Gun club for sponsoring a fishing rodeo each year.

A special guest at the event was Paul Kosiar, one of the owners of Perry Lake, where the fishing rodeo is held every year.

Virginia Chinchi Pennsylvania's "Junior Fishing Queen" shows off some of the fishing tackle that was bestowed upon her along with the title.

PENNSYLVANIA REPTILES & AMPHIBIANS

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 17 . . . Water Snakes

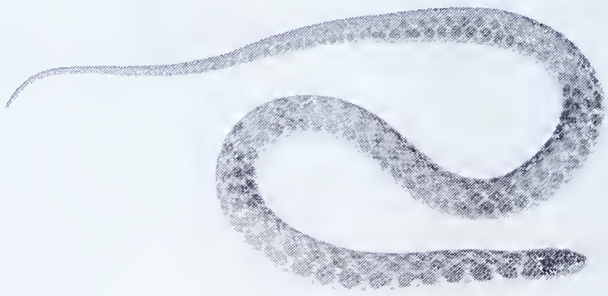
NORTHERN BANDED WATER SNAKE (Natrix sipedon sipedon) . . . Maximum length 4 feet, 3 inches; common species; displays dark blotches on sides and back; usually has dark, half-moon markings on belly scales; feeds partly on fish, principally slow-swimming, non-game fish rather than bass or trout; dead or dying fish often eaten; generally distributed throughout the state; recorded from 58 counties.

NORTHERN BANDED WATER SNAKE WITH YOUNG . . . As ma as 44 living young may be produced by one female; this species w bite but is not venomous; erroneously referred to as a "water moccasi but that poisonous species does not occur in the east north of t Dismal Swamp in Virginia; one of the most abundant and best know snakes in Pennsylvania.

QUEEN WATER SNAKE (Natrix septemvittata) . . . Maximum length 33 inches; often confused with garter snake but lacks light stripe down back; yellowish stripe extends along each side of body and two brown stripes occur on under-surface; rarely found far from water where it feeds principally on crayfish; rarely, if ever, eats fish of any kind; recorded from 28 counties in non-mountainous sections.

QUEEN WATER SNAKE WITH YOUNG . . . Litter numbering abou 10 young born in August; one of numerous bad features of vermi campaigns directed against "water snakes" is the indiscriminat slaughter of this inoffensive species; often observed sunning itself i trees or bushes overhanging ponds; quite timid when approached.

YOUNG WATER SNAKES . . . Right, Queen Water Snake; left, Northern Banded Water Snake; both only a few days old; young Queens measure about 8 inches at birth; young Banded Water Snakes measure 9 inches; young Bandeds are brilliantly marked, pale gray, with markings similar to adults but with pattern on both back and belly deep black.



KIRTLAND'S WATER SNAKE (Natrix kirtlandi) . . . Maximur length 21 inches; one of Pennsylvania's rarest snakes; recorded onl from Allegheny, Butler, Delaware and Westmoreland counties; has re belly with two rows of round black spots and pattern of dark blotche on upper surface; photo above by courtesy of Zoological Society o Philadelphia.

A glimpse of the youngsters who gathered to take part in the opening day.

Mayor Robins helps launch the program. Reading L. to R.: Mayor Claude R. Robins, President Maxwell of the Optimist Club, Director Ross of the Harrisburg Park Department, Charles Whisler, Bain Satterfield of the Optimist Club, and David Porter of the Harrisburg City School Board.

Harrisburg's "Kids" Fishing Paradise Opens

From the 12-year-old youngster whose ait "ain't any good" to the little tot who aught a fish as long as his age the 1950 ptimist Fishing Paradise project of Harrisurg, got off to a flying start.

One thousand youngsters descended on alian Lake at 2 o'clock Tuesday June 27, nd for the next five hours it was every sh for himself.

Six-year-old Johnny Porter, who couldn't emember his address, except that he lived ıp on Third street some place," was typical f the kids who turned out for the opening ay program.

One look at Johnny's equipment and you ıst couldn't fathom how any respectable sh would bite at his offering.

His flashy gear was a mop handle, packge string and a penny hook. He didn't elieve in sinkers.

"They just won't bite," the blond-headed ot said. "I don't care though. I'd rather at my hot dog."

Johnny wasn't alone when it came to the ating department. The other 999 "seasoned" nglers paused long enough to give the fish rest while they downed 1000 hot dogs a ke number of rolls, which they washed own with 25 cases of soft drinks and a few allons of lemonade. The "light" snack was erved by the Optimisses.

The Tomasic brothers of Bressler, John nd Frank, stopped to argue on who caught e biggest fish. They had five of them on string in the water weighed down with brick.

Frank settled the argument quickly by olding up a 10-inch catfish, remarking, This is the biggest and I caught it. I can ll by its tail."

A number of kids ran into trouble with eir equipment and 10-year-old Frank ood had his line 'bird-nested' most of the ternoon.

Then there were the Green brothers, arry, 9, and David, 7, who also had their es fouled up, but were smart enough to cruit their mother's aid.

One tot about 4 years old—was trying to st his line and meeting with all sorts of fficulty. His mother came to his aid, but ouldn't do much better. The boy quipped, "Mother, you don't know anything about fishing either."

There were five junior wardens on hand to see that order was kept. Handling the duties were Dave Logan, 14, Kenneth Myers, Aubry Rose, John Boglovitz, and Gil Friedman, 15.

Twelve-year-old Eddie Bollinger was disgusted because the fish wouldn't bite.

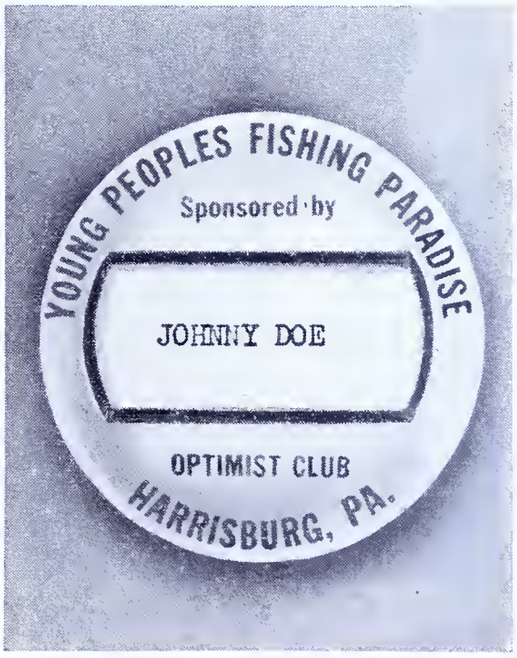
"They don't go for my dough or bread bait. The next time I'm using worms. They wiggle."

The kids used all sorts of bait, including ham fat, bacon, bread, worms and dough.

Equipment ranged from a curtain roll to the latest design in casting tackle. Some poles were 10 to 15 feet long and others were three-inch sticks. But it didn't make any difference to the kids as long as they caught a fish.

Bill Reichwein, 6, caught a "big" two-inch sunfish and was disappointed when he had to toss it back because of the project's rules.

Bill Barber, 12, was another disappointed fellow. He caught three nice size fish, but had to throw them back because he rushed the starting time by 10 minutes.



Each young Ike Walton is furnished with a button for identification at the time of registration.

The program, which runs for 10 weeks, is held each Tuesday and Saturday and the youngsters who catch the biggest fish are awarded prizes by the Better Fishing, Inc., a national organization sponsoring such events all over the country.

The affair was launched by Mayor Claude R. Robins and Park Commissioner Harry Dayhoff. The Optimist Committee was headed by R. A. Maxwell, club president, who was assisted by Carl Hansen, Ken Gilbour, Dave Porter, Charles J. Whisler and John Grissinger.—*John Travers.*

Revery

I used to love the woodlands
The birds like air so free,
The new green leaves, the whispering trees
The violets peeping thru at me—

To wander by a babbling brook
Thru grass still wet with dew,
Filled the fleeting hours with magic
And the world seemed born anew.

I used to love the twilight
The smell of new mown hay,
The nightsong of the crickets
Silenced with the break of day—

To ramble thru the woods and fields
With nature in review,
Freed the day of every worry
And fantastic dreams seemed true.

I will always love the woodlands
And the nights when moonlight's clear—
The shadows made by storm clouds
And ghostly forms by fear,

But my walks are now just memories
Thru the backlog of the past,
Reviews of pleasant hours
Worldly cares have stopped, alas!

—*J. A. McHugh.*

Never borrow or lend a fishing license. Both are subject to the same penalty.

PENNSYLVANIA FISH LAW VIOLATIONS

CASES SETTLED DURING THE MONTH OF JUNE 1950

ADAMS COUNTY

Clouser, William H., R. D. 2, Littlestown, Pa. Exceeding creel limit .. $ 10.00
Everhart, William C., Gettysburg, Pa. Exceeding creel limit 40.00
Stahl, Gilbert L., R. D. 1, New Oxford, Pa. Three tadpoles in closed season 30.00
Starner, Arthur W., R. D. 2, Gardners, Pa. Game fish in closed season 10.00

ALLEGHENY COUNTY

Arbasak, Victor A., 124 S. 25th St., Pittsburgh, Pa. Two bass in closed season 20.00
Ballog, James P., 1904 Maple St., Munhall, Pa. Fishing in nursery waters 20.00
Frye, Trevor, 22 Boyd St., Pittsburgh, Pa. Fishing without a license 25.00
Gepert, Eugene, 240 Madison Ave., Pittsburgh 12, Pa. Operating motor boat without a license 10.00
Glaser, Aloysius L., 304 Thomas Ave., Bellevue, Pa. Violation of the rules and regulations 20.00
Hutson, Lyle, Keck Ave., New Bethlehem, Pa. Four undersized trout 40.00
Kaufman, Jerome J., 1119 Duffield St., Pittsburgh 6, Pa. Operating motor boat without a license 10.00
Kentzel, Jack S., 327 Bellevue St., Pittsburgh, Pa. Fishing on Sunday without consent of land owner 25.00
Lomis, Leland R., 841 Momon Ave., Glassport, Pa. Operating motor boat without a license 10.00
Marshall, Ellis T., 117 Linton Ave., Belle Vernon, Pa. Fishing on Sunday without consent of land owner 25.00
Mazjay, Michael, 1118 3rd Ave., Brackenridge, Pa. Fishing in stream closed for stocking 25.00
Melvin, Jack R., 603 Creeks St., Pittsburgh 14, Pa. Fishing without a license 25.00
Monutain, J. W., General Delivery, Pitcairn, Pa. One bass in closed season 10.00
Pferdehirt, Edward, 500 Todd St., Wilkinsburg, Pa. Fishing on Sunday without consent of land owner 25.00
Svec, Ester H., 2822 Stuart St., McKeesport, Pa. Fishing without a license 25.00
Tomedolsky, Charles, 807 Hemlock Ave., Glassport, Pa. One bass in closed season 10.00
Tweedy, William, 1314 Center Ave., Turtle Creek, Pa. Violation of the rules and regulations 20.00
Valmassoni, Charles, 9 Radnor Rd., Pittsburgh, Pa. Fishing on Sunday without consent of land owner .. 25.00
Wood, Roy C., Crawford Village, McKeesport, Pa. Fishing without a license 25.00
Zalewski, Theodore J., 5302 Dunhan St., Pittsburgh, Pa. Fishing on Sunday without consent of land owner 25.00

ARMSTRONG COUNTY

Lias, Arthur L., NuMine, Pa. Exceeding creel limit 50.00

BEDFORD COUNTY

Allison, Wilbert W., R. F. D. 1, Pleasantville, Pa. Using explosives 100.00

BERKS COUNTY

Boginski, Adam G., 4050A S. 7th St., Reading, Pa. One undersized trout 10.00
Jesenosin, Michael, 440 S. 9th St., Reading, Pa. One bass in closed season 10.00
Miller, Robert E., Maxatawny, Pa. One bass in closed season 10.00
Sauppee, John, 920 N. 10th St., Reading, Pa. Rods not under immediate control 20.00

BLAIR COUNTY

Burk, Francis H., 209 Hickory St., Hollidaysburg, Pa. Fished after killing one fish 20.00
Houtz, John O., R. D. 1, Altoona, Pa. One bass in closed season 10.00
Nier, Charles H., S. Market St., Martinsburg, Pa. Fishing in closed waters 20.00
Parshall, W. D., P. O. Box 66, Bellwood, Pa. Fished after killing one fish 20.00

Fred Gorsuch of Shippensburg proudly displays a fine 24" Rainbow Trout weighing five pounds, one ounce, which he caught in Middle Spring on May 28. This is not Fred's first big fish this season, the lad caught a 22½ incher in the same spot several weeks earlier. Photo by Shippensburg News-Chronicle.

Singer, Fred S., 3218 Sixth Ave., Altoona, Pa. Fished after killing one fish 20.0

BUCKS COUNTY

Derstine, Isaac, Blooming Glen, Pa. Illegal device 20.0
Jones, H. W., S. 3rd St., Perkasie, Pa. Fishing without a license 25.0
Sacks, George R., 212 N. Bellevue Ave., Langhorne, Pa. Fishing without a license 25.0
Venere, Fred, 307 New Brook St., Bristol, Pa. Fishing without a license 25.0

BUTLER COUNTY

Baker, Eugene, R. D. 1, Harrisville, Pa. Operating motor boat without a license 5.0
Buccini, M. G., Boyers, Pa. Failure to exhibit fishing license 25.0

CAMBRIA COUNTY

Brewer, Thomas W., 524 Grant St., South Fork, Pa. Rod not under immediate control 20.0
Buck, Elmer T., 308 Cleveland St., Gallitzin, Pa. One undersized trout 10.0
Cronauer, Method, R. D., Patton, Pa. Fished after killing one fish 20.0
Dumm, Walter C., Nicktown, Pa. One bass in closed season 10.0
Fulco, Dominick, Spangler, Pa. Trespassing on state hatchery property with intent to fish 100.0
Gonsha, Anderson, 7 Mellon C. T., Conemaugh, Pa. One bass in closed season 10.0
Hagerick, Donald, R. F. D. 1, Conemaugh, Pa. One bass in closed season 10.0
Hogue, Kenneth, 562 Coleman Ave., Johnstown, Pa. Exceeding creel limit 10.0
Jenkins, John W., Fallentimber, Pa. Using set device 20.0
Kania, Walter, Twin Rocks, Pa. Fishing on Sunday without consent of land owner 25.0
Lubert, John, 1060 Davest St., Nanty Glo, Pa. Illegal device 20.0
McCormick, Robert J., Jr., 1312 Park Ave., Barnesboro, Pa. One undersized trout 10.0
Sirko, Adolph J., 421 Brallier Alley, Johnstown, Pa. Exceeding creel limit 10.0
Smulinsky, Joe, Nettleton, Pa. Fishing on Sunday without consent of land owner 25.0
Swanhart, William, 1201 Cambria St., Nanty Glo, Pa. Illegal device 20.0
Swanson, Charles G., Spangler, Pa. Trespassing on state hatchery with intent to fish 100.0
Swedo, John, R. D. 1, Box 285, Johnstown, Pa. Fishing without a license 25.0
Swedo, John, R. D. 1, Box 285, Johnstown, Pa. Altering license .. 25.0
Waterhouse, Lamoine, 401 W. Lloyd St., Ebensburg, Pa. Fished after killing one fish 20.0

CARBON COUNTY

Semko, George, 202 W. Columbus St., Nesquehoning, Pa. Fishing in a closed stream 25.0

ENTRE COUNTY

ollins, John P., 209 Ida St., Philipsburg, Pa. Five undersized trout .. 50.00

olk, John L., 807-A Windcrest St., State College, Pa. Fished with bait in possession 20.00

Miller, Howell, Springmills, Pa. Violation of the rules and regulations 20.00

Tegtmeyer, Wm. J., Foster & Thompson St., State College, Pa. Fishing in nursery waters 100.00

Weikert, Nelson J., Howard, Pa. Exceeding creel limit 30.00

CLEARFIELD COUNTY

Roland, Harold G., 526 S. 2nd St., Clearfield, Pa. Fishing without a license 25.00

Roland, Harold G., 526 S. 2nd St., Clearfield, Pa. One illegal frog 10.00

Turner, Lee, R. D., Morrisdale, Pa. One pike in closed season 10.00

CLINTON COUNTY

McCaslin, Calvin L., R. D. 1, Mill Hall, Pa. Violation of the rules and regulations 20.00

McCaslin, Calvin L., R. D. 1, Mill Hall, Pa. One undersized trout .. 10.00

Wagner, Paul T., Logantown, Pa. Illegal device 20.00

Weider, Clyde, 345 E. Church St., Lock Haven, Pa. Fishing on Sunday without permission of land owner 25.00

Welton, Stanley, Westport, Pa. Violation of the rules and regulations 20.00

West, Delbert, R. D. 1, Lock Haven, Pa. Four undersized trout 40.00

Winnie, Lewis, North Bend, Pa. Three undersized trout 30.00

CRAWFORD COUNTY

Carter, Donald, Spartansburg, Pa. Illegal device 20.00

Maynard, Robert, Spartansburg, Pa. Illegal device 20.00

CUMBERLAND COUNTY

Dangler, Howard W., R. 3, Mechanicsburg, Pa. Fishing in closed stream 25.00

Gochenaur, Joseph, Boiling Springs, Pa. One bass in closed season 10.00

Wise, William H., 310 3rd St., New Cumberland, Pa. Fishing in closed stream 25.00

DAUPHIN COUNTY

Klinger, Richard, 27 W. Derry Rd., Hershey, Pa. One undersized trout in restricted stream 20.00

ELK COUNTY

Costanzo, Frank P., 420 Second Ave., Johnsonburg, Pa. Exceeding creel limit 100.00

Manno, Thomas J., 114 N. Broad St., Ridgeway, Pa. Exceeding creel limit 10.00

Mecca, Frank J., 184 Avis St., St. Marys, Pa. One undersized trout 10.00

Swanson, Herman, Elbon, Pa. Fished with meat and bread in possession 20.00

ERIE COUNTY

Cabelof, George, 422 German St., Erie, Pa. One bass in closed season 10.00

Denmark, Robert, 311 Strathmore Ave., Erie, Pa. Exceeding creel

Golubieski, Robert J., 111A East 8th St., Erie, Pa. Fishing without a license 25.00

Letkiewicz, Carl J., 317 E. 13th St., Erie, Pa. Fishing without a license 25.00

McClendon, Walter L., 116 W. 16th St., Erie, Pa. Fishing without a license 25.00

Real, Robert H., 728 Parade St., Erie, Pa. Fishing without a license 25.00

Rogers, Eugene, 1128 W. 5th St., Erie, Pa. Fishing in nursery waters 20.00

treamside Life

THE WATERLILY

By Robert Leo Smith

At one time, according to an old Indian gend, Wayotah, the Blazing Sun, was the ief of the Seneca Indians and Oseetah, the ird, the fairest of their maidens. Oseetah ved the young, sinewy leader but her arents had long since promised her to a ss warlike young man. Feeling that she ould obey her parents rather than follow er own inclinations, she avoided Wayotah ntil his successful return from a war campaign.

Then, wishing to claim her as his own, Vayotah followed Oseetah across the Lake f Clustered Stars (now ignobly called Lake ussey, located in the Adirondack Mountains). As he advanced toward her with utheld arms she ran up a projecting rock. ooking back at him with a glance that conrmed her love, she leaped into the lake. Vayotah jumped in to recover her but he ould find no trace of her. He returned to e camp and told the people of the village bout the tragedy.

The next day a hunter came running into e village and breathlessly announced that owers were growing on the water of the ake. The whole tribe hurried to the shore, oarded canoes and sailed out to the place vhere Oseetah leaped to her death. And here they found the water blooming with old and white flowers, tranquil, beautiful nd delicately scenting the air.

The Indians demanded a meaning of this rom their prophet.

The prophet said: "These flowers are Oseetah changed to this form of life. Her eart was as pure as the petals and her ove burned like the gold they enclose. Notice and you will see that the flowers unold in the warmth of the sun, but when its ife shall be darkened by the setting of the un the petals will fold and the flower will leep on the water."

Thus, according to the Seneca Indians, vere the first waterlilies created.

Floating in quiet waters along the shores f lakes, rivers and ponds, the large, waxy vhite flowers of the waterlily fill the air with pungent sweetness from June until September. The cup-like blooms consist of many petals arranged in rows, enclosing bright, golden stamens. The waterlilies open in the morning when the sun begins o shine upon them and close up later in the day. During the short daily period the lowers are open, hundreds of insects, attracted by the fragrance, swarm about them. By the buzzing rounds of the insects is pollination accomplished.

Although the flowers of the waterlily are drawing cards for insects, the large, deep green, circular leaves or lily pads are the major attractions for them. Few plant leaves play such an important role in the ecology of the pond and the streamside. Actually there are two worlds on the lily pads, a fraction of an inch apart; and the lower world, that on the underside of the leaves, is the most interesting. Here are floating hatcheries for the eggs of snails, water beetles and caddis flies; here are the foraging grounds for the small, red water mites and the snails that feed on the slimy green algae growing on the leaf and stems. Here also live small sponges and colonies of bryozoans. On top of the lily pads live the leaf beetles, metallic green, bronze or purple in color. During the egg laying season the females riddle the lily pads with holes. On the under side of the leaves around the edges of the holes the leaf beetles lay an arc or circle of eggs, fastened by a gelatinous glue.

The waterlily is wonderfully adapted to aquatic life. The stems rising from the tuberous rootstocks have 4 main air channels. The pads contain air cells, enabling them to float; the tops of the leaves are covered with wax to shed water; and the breathing pores, usually found on the under surface of most leaves, are on the upper leaf surface. The waterlilies grow from starchy tubers, buried in the rich bottom mud and increase their numbers either by offshoots from the main rootstock or by seeds.

Waterlilies are characteristic plants of bass fishing grounds. And though the bass do not feed directly upon the lilies, the tremendous amount of insect life the lilies support furnish food for small fish and amphibians, which in turn are a source of food for game fish.

Symoski, Joseph, 436 W. 16th St., Erie, Pa. Violation of the rules and regulations 20.00
Van Cleve, E. S., Detroit Steel Products Co., Erie, Pa. Polluting Airport Run 100.00
Vonmere, Leonard, 329 E. 3rd St., Erie, Pa. Fishing without a license 25.00
Wilson, Marshall, Box 364, R. D. 1, North East, Pa. Interference with officer 100.00
Winiarezyk, Charles R., 2057 Warfel Ave., Erie, Pa. Violation of the rules and regulations 20.00

FAYETTE COUNTY

McManus, Joseph, Fairbanks, Pa. Rods not under immediate control 20.00

FRANKLIN COUNTY

Baltzer, Charles E., Scotland, Pa. Fishing in closed stream 25.00
Brunner, Earl G., R. D. 4, Waynesboro, Pa. Fishing without a license 25.00
Harvey, Carroll E., Doylesburg, Pa. Illegal device 20.00
Houpt, Clifford, Lemasters, Pa. Interference with officers 100.00
Houpt, Clifford, Lemasters, Pa. One bass in closed season 10.00
Myers, Lloyd F., R. D. 1, Mercersburg, Pa. Exceeding creel limit .. 10.00
Overcash, George C., 721 S. Second St., Chambersburg, Pa. Illegal device 20.00
Peters, Robert L., 20 Willow Circle, Chambersburg, Pa. Illegal device 20.00
Poper, Warren N., Box 14, Williamson, Pa. Illegal device 20.00
Shade, William E., 741 South Second St., Chambersburg, Pa. Illegal device 20.00
Shields, Harry, R. D. 1, Orrstown, Pa. Fishing in closed stream 25.00
Sipe, Cecil E., 15 N. Earl St., Shippensburg, Pa. Borrowing a fishing license 25.00
Thomas, William H., 926 Scotland Ave., Chambersburg, Pa. Rods not under immediate control 20.00
Varner, Raymond, Spring Run, Pa. Illegal device 20.00

GREENE COUNTY

Bohn, Lewis A., House No. 54, Mather, Pa. Violation of the rules and regulations 20.00

HUNTINGDON COUNTY

Corcelius, James H., Mapleton Depot, Pa. Exceeding creel limit 10.00
Corcelius, Walter E., R. D. 1, Huntingdon, Pa. Exceeding creel limit 20.00
Weaver, Chester J., R. D. 1, Huntingdon, Pa. Fishing without a license 25.00

INDIANA COUNTY

Anderson, David C., Lucerne Junction, Pa. Exceeding creel limit .. 20.00
Boggio, Eugene, 425 S. Liberty St., Blairsville, Pa. Rods not under immediate control 20.00
Kline, Robert L., 10008 Laraiu Ave., Maryland, Pa. Fishing without a license 25.00

JEFFERSON COUNTY

Murajda, Michael, De Lancey, Pa. Fishing with borrowed license 25.00
Painter, Richard J., R. D. 2, Punxsutawney, Pa. Fishing without a license 25.00

LACKAWANNA COUNTY

Carpenter, Charles, 520 William St., Dunmore, Pa. Exceeding creel limit 50.00
Chellino, Sam, 63-6th Ave., Carbondale, Pa. Operating motor boat without displaying license plates 5.00
Dresinski, Edward, 1123 Rundle St., Scranton, Pa. Hooking mullets .. 20.00
Fowler, Hilton, 1300 Maylert St., Scranton, Pa. Did not properly display license plates 10.00
Fundak, Andrew, 103 Saxon St., Jessup, Pa. Fishing without a license 25.00
Gladish, Alcoh, 320 Charles St., Old Forge, Pa. Exceeding creel limit .. 10.00
Salogue, John, 1820 Kayser Ave., Scranton, Pa. Fishing with borrowed license 25.00
Seeley, Edward, 1012 Ridge Ave., Scranton, Pa. Exceeding creel limit 50.00
Symoliski, Peter, 17 Main St., Greenwood, Pa. Illegal device 20.00
Williams, Lester, 403 Charles St., Scranton, Pa. Fishing in a closed stream 20.0
Zarnoski, Alfred, 313—3rd St., Blakely, Pa. Fishing in state fish hatchery 100.0

LANCASTER COUNTY

Beltz, Albert, 534 W. James St., Lancaster, Pa. Fishing in stream closed for stocking 25.0

LAWRENCE COUNTY

Miller, Lester D., Box 434 Bessemer, Pa. Fishing without a license 25.0

LEHIGH COUNTY

Baker, Louis, 117½ N. Penn St., Allentown, Pa. Fishing in a closed stream 25.0
Cattili, Eugene, N. Penn St., Allentown, Pa. Fishing in a closed stream 25.00
Valentino, Robert, 727 N. Jordan St., Allentown, Pa. Fishing in a closed stream 25.0

LUZERNE COUNTY

Belles, Arthur W., Rear-62½ Mitchell St., Pittston, Pa. Fishing without a license 25.00

Ecological Sense or Nonsense

(*From Page* 3)

select for spawning, and duplication of such areas will aid in propagation.

Good shelter and adequate protection from natural enemies might go hand in hand. All fishermen have seen trout take up feeding stations only to retire to a safer place when the feeding period is over. Bank cover, deep pools, I-deflectors, stumps, and overhanging banks provide cover where fish can rest between feeding periods.

Adequate food is necessary for trout, and regardless of other existing conditions, trout cannot live where they cannot find it. Not only must food be available, but it must be reasonably close to the place of shelter and protection, because it is a fact that trout do not generally migrate far in search of food. Although trout feed essentially on aquatic matter and in particular on aquatic insects, a portion of their diet is derived from terrestrials, which find their way into the water from overhanging vegetation or perhaps are washed into the stream as a result of hard rains.

The stream bed should be considered when improvement work is undertaken so that some one form of habitat necessary for the survival of desirable insect populations is not destroyed. Elimination of all mud will eliminate also the burrowing type mayflies represented by the well-known Pennsylvania Shad Fly, while the removal of all rough gravel would likely remove the stone flies and many of the clinging type mayflies. Needham provides some interesting information on the food contents of various types of stream bottoms, and it might well be remembered in stream improvement work. Food content is expressed in grams of food per square foot, and the following comparative figures are significant: bedrock, 0.0065 gms.; hardpan, 0.10 gms.; sand, 0.46 gms.; muck, 0.65 gms.; fine gravel, 0.98 gms.; coarse gravel, 1.28 gms.; rubble, 1.88 gms.; silt, 4.29 gms.; weed bed, 37.0 gms. In spite of the fact that some object to the presence of gravel beds and weed patches in trout streams, these do provide areas rich in food—a very essential part of stream improvement.

The fact that stream improvement is worthwhile is indicated in a report by Hazzard. An eight years' record on Hunt Creek in Montmorency County in Michigan indicates that in twenty pools created by improvement the numbers of trout caught increased 120.0%, and the catch per hour increased 35.5% in spite of an increased fishing pressure of 64.0%.

Shallow, barren stretches offer the greatest opportunity for correction and should be placed first on any list of improvement work. A good job can be done with the introduction of well-constructed dams, deflectors, and cover areas. However, the danger of over-improvement must be emphasized, and caution must be exercised in any program in order that the betterment of one area does not destroy another which nature has provided ready-made.

olinsky, Anthony, Route 1, Hazleton, Pa. Selling two bait-fish 20.00
onner, Neil A., Box 107, Harwood Mines, Hazleton, Pa. Selling two bait-fish 20.00
abell, Frank P., 788 Roosevelt St., Hazleton, Pa. Fishing with borrowed license 25.00
ease, Ralph, R. D. 1, Trucksville, Pa. Exceeding creel limit 20.00
ortright, James B., R. F. D. 2, Berwick, Pa. Operating motor boat without a license 10.00
rigalunas, Joseph G., 17 Mitchell St., Pittston, Pa. Exceeding creel limit 50.00
argraves, George, 40 S. Wells St., Wilkes-Barre, Pa. Exceeding creel limit 50.00
azurkivich, Andrew, 204 Pine St., Pittston, Pa. Exceeding creel limit 10.00
azurkivich, Frances, 204 Pine St., Pittston, Pa. Exceeding creel limit 10.00
ydzanski, Daniel, Straub St., Trucksville, Pa. Fishing in a closed stream 20.00
helly, Ruth A., 48 Decatur Rd., Shavertown, Pa. Fishing without a license 25.00
panik, Joseph, 71 Hillside St., Wilkes-Barre, Pa. Fishing in a closed stream 25.00
anchik, Joseph, 818 Rutter Ave., Kingston, Pa. Fishing without a license 25.00
ashuskirk, Earl E., Edge Hill, West Nanticoke, Pa. Two bass in closed season 20.00

Fisherman's Paradise Sets New Record

Pennsylvania's famous "Fisherman's Paradise" located near Bellefonte in Centre County and conducted by the Pennsylvania Fish Commission ended its 1950 season on Saturday, July 22.

Setting a new and all-time high, the attendance this year was 34,796. Of this number, 28,843 were men and boys, while the remaining 5,953 totaled the number of women and girls. The 1950 record attendance topped the 1949 season by 473 more fishermen and established the largest attendance in the history of the Paradise.

During the 1950 season which extended from May 19 to July 22, both dates inclusive, some 76,197 trout were caught, of which number 8,057 were killed.

The largest trout caught by a woman was a rainbow measuring 25 inches and weighing 76 ounces, while the largest caught by a man was a 24½ inch brown trout which tipped the scales at 112 ounces.

During the 1950 season, 60 fishermen were apprehended violating the rules and regulations governing the Paradise. These violators were fined and immediately barred from the Paradise for the remainder of the season. In addition they will be unable to buy a state fishing license in 1951.

LYCOMING COUNTY

Barner, Calvin H., 260 Allegheny St., Jersey Shore, Pa. One undersized trout 10.00
Strong, Mervin W., 609-2nd Ave., Williamsport, Pa. Fishing without a license 25.00
Strong, Mervin W., 609-2nd Ave., Williamsport, Pa. One pickerel in closed season 10.00

McKEAN COUNTY

Sewell, Ardella, Box 13, Wrights, Pa. One undersized trout 10.00
Sewell, William, Box 22, Wrights, Pa. Eighteen undersized trout 180.00
Sewell, Leona M., Box 22, Wrights, Pa. One undersized trout 10.00

MERCER COUNTY

Griffin, Glenn, Sandy Lake, Pa. Fishing in posted water 20.00
Holley, L. D., 174 Railroad St., Sharon, Pa. Fishing without a license 25.00
Thomas, Roosevelt, 174 Railroad St., Sharon, Pa. Lending a fishing license 25.00

MIFFLIN COUNTY

Fisher, Kenneth I., R. D. 2, Lewistown, Pa. One undersized trout .. 10.00
Mellott, Joseph D., 114 State St., Mt. Union, Pa. Altering his father's license 25.00

MONROE COUNTY

Hardy, Frank, Analomink, Pa. Fishing with bait in restricted area 20.00

MONTGOMERY COUNTY

Kurtas, John, R. D. 2, Pottstown, Pa. One bass in closed season 10.00
Schlegel, William F., R. D. 2, Lansdale, Pa. Fishing in closed stream 25.00

MONTOUR COUNTY

Hubucki, Joseph A., 117 Pine St., Danville, Pa. Operating motor boat without a license 10.00

NORTHAMPTON COUNTY

Jones, Chas M., 1421 Chelsea Ave., Bethlehem, Pa. Illegal device ... 20.00
Keikel, Frederick C., 1525 N. Center St., Bethlehem, Pa. Illegal device 20.00

NORTHUMBERLAND COUNTY

Carl, Henry J., Herndon, Pa. Illegal device 20.00
Kemp, M. L., Box 223, Sunbury, Pa. Operating motor boat without a license 10.00
Ramer, Mrs. Isaac, R. D. 1, Herndon, Pa. Fishing without a license 25.00
Sees, Cleaver D., 598 Orange St., Northumberland, Pa. Operating motor boat without displaying license plates 5.00
Walker, Carl, 248 Queen St., Northumberland, Pa. Operating motor boat without a license 10.00

PHILADELPHIA COUNTY

Ditizio, Edward, 834 Winton St., Philadelphia, Pa. Fishing without a license 25.00

Izaak Walton

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uch about fish and fishing as any an living."

Much of what Walton knew of ngling was learned from the "Treaise of Fysshynge Wyth An Angle," volume published in 1496 by Dame uliana Berners. Walton loved the sherman's life—the songs, merriment nd companionships of the Angler's ns he visited—and the peace and uietude of country places, by ramling meadow streams.

But he loved equally well the actual sting and taking of fish, which he onsidered an art. He admired men ho could catch fish with consistency, nd made it his custom to do much of is angling with those skilled in the ort. "I have been fishing," says alton, "with old Oliver Henly (now ith God), a noted Fisher, both for rout and Salmon."

All in all, his attitude toward angling nd toward his chosen way of life is est summed up in this excerpt from *he Compleat Angler:*

. . . For anglers and meek quiet-spirited men are free from those high, restless thoughts which corrode the sweets of life . . . Nay, let me tell you, there be many that have forty times our estates, that would give the greatest part of it to be healthful and cheerful like us; who, with the expense of a little money, have eat and drank, and laughed, and angled, and sung, and slept securely; and rose next day and cast away care, and sung, and laughed, and angled again; which are blessings rich men cannot purchase with all their money.

Izaak Walton lived to age ninety and to the last was known to lay aside his pen to go a-fishing. He died December 15, 1683, in the home of his daughter and son-in-law in Winchester. On the day of his death a great frost fell over England, lasting, it was said, until the fourth of February. Charles Cotton, in Beresford Dale, himself growing old, observed that the frost brought "great mortality of trout and grayling of great quality in the River Dove."

Today, Walton is remembered as the patron of anglers. He gave new meaning to the sport. Ever the contemplative, he achieved, despite many sorrows, that peace of mind and soul which mankind has endlessly sought, believing simply that there is, "No life, my honest Scholar, no life so happy and so pleasant, as the life of a well-governed Angler."

Edwards, Samuel, 1005 Brown Place, Philadelphia 23, Pa. Fishing without a license 25.00
Grece, Jesse, N. 39th St., Philadelphia, Pa. Game fish in closed season 10.00
Huff, Leemond, 1108 Germantown Ave., Philadelphia, Pa. Fishing without a license 25.00
Kontos, Frank, 116 S. 58th St., Philadelphia, Pa. Fishing without a license 25.00
Thomas, James H., 433 Holly St., Philadelphia, Pa. One game fish in closed season 10.00
Tully, William, 868 N. Beechwood St., Philadelphia, Pa. Fishing without a license 25.00

PIKE COUNTY

Dunn, Walter, 105 Pennsylvania Ave., Matamoras, Pa. Fishing without a license 25.00
Mossman, Elizabeth, Greeley, Pa. Exceeding creel limit 20.00

POTTER COUNTY

Alysworth, Romaine, Galeton, Pa. Three undersized trout 30.00
Langdon, Francis J., c/o Edward Stiles, Coudersport, Pa. Fishing without a license 25.00

SCHUYLKILL COUNTY

Lafferty, Joseph, 102-2nd St., Coaldale, Pa. Violation of the rules and regulations 20.00
Yeager, Ralph V., 333 W. Pine St., Mahanoy City, Pa. Fishing without displaying license button ... 25.00

SOMERSET COUNTY

Bittner, Francis, R. D. 2, Berlin, Pa. Fished after killing one fish 20.00
Sadowsky, Rudolph, Boswell, Pa. Exceeding creel limit 10.00

TIOGA COUNTY

Osborn, Charles A., Morris, Pa. One undersized trout 10.00

VENANGO COUNTY

Cavill, Charles, 645 Elk St., Franklin Pa. Illegal operation of motor boat 5.00
McClelland, Roy, Mt. Route 4, Oil City, Pa. Fishing in closed stream 25.00

WARREN COUNTY

Plunkett, Kenneth W., Sheffield, Pa. Exceeding creel limit 10.00

WASHINGTON COUNTY

Menzietti, Anthony, R. D. 1, Bridgeville, Pa. Fishing in nursery waters 100.00
Oberlach, Edward, Richeyville, Pa. Violation of the rules and regulations 20.00

WESTMORELAND COUNTY

Carson, Charles, Larmer, Pa. Failure to display license 25.00
Coulter, Alberta, R. D. 1, Apollo, Pa. Fishing without a license 25.00
Fabian, Pete, Box 82, Bradenville, Pa. Fishing without a license 25.00
Goras, George, Box 104, Bluff Alley, Irwin, Pa. Fishing without a license 25.00
Kinsey, Clifford S., 51 Dailey Ave., Latrobe, Pa. Three undersized trout 30.00
Liprando, Gregory, Box 655, Export, Pa. Two bass in closed season .. 20.00
Nider, Michael, Box 213, Export, Pa. Operating motor boat without a license 10.00
Oblock, Frank, R. D., West Newton, Pa. Fishing without a license 25.00
Schisler, Charles E., 212 Walnut St., Latrobe, Pa. One undersized trout 10.00
Shaffron, Joe, R. D. 1, Latrobe, Pa. Fishing without a license 25.00

WYOMING COUNTY

Detrick, Leo Jr., R. D. 1, Factoryville, Pa. Fishing with a borrowed license 25.00
Swaka, Fred, R. D. 1, Factoryville, Pa. Lending a license 25.00

YORK COUNTY

Blymire, Paul, 833 W. Poplar St., York, Pa. Operating motor boat without a license 10.00
Bucklen, Chester R., 622 E. King St., York, Pa. Failure to display license plates on motor boat 10.00
Forry, George E., R. D. 1, Mt. Wolf, Pa. Illegal device 20.00
Orwid, K. Eugene, R. D. 1, Glen Rock, Pa. Rods not under immediate control 20.00
Rohler, E. Vincent, R. D. 3, Red Lion, Pa. Operating motor boat without license ..... 10.
Selack, Richard, 535 Cleveland Ave., York, Pa. Exceeding creel limit ... 10.
Smith, Donald, 329 W. North St., York, Pa. Exceeding creel limit .. 10.
Smith, Francis R., R. D. 1, Glen Rock, Pa. Rods not under immediate control ..... 20.
Winebrenner, Robert, 267 Frederick St., Hanover, Pa. Operating motor boat without a license ..... 10.

OUT OF STATE

Thompson, Louis W., 106 West Third St., Los Angeles, Cal. Fishing without a license ..... 25.
Howett, Edna M., 131 N. Dupont St., Wilmington, Del. Fishing without a license ..... 25.
Wentzel, Howard H., 43 North Ave., Hagerstown, Md. Operating a motor boat without a license ..... 10.
Duza, Richard J., 20119 Riggi St., Detroit, Mich. Fishing without a license 25
Kirsten, Paul F., 1007 W. Blanke St., Linden, N. J. Fishing without a license 25

LACKAWANNA BOYS ATTEND JUNIOR CONSERVATION CAMP

Grouped above are the five boys selected and sponsored by the Lackawanna County Federatio of Sportsmen's Clubs who attended the 1950 Junior Conservation Camp at Masseyburg, Hunting don County from July 2 to 12th inclusive. Those in the picture are, first row, left to right Robert H. Stanton, John L. Neiger, Federation President, and Warren C. Smith, executive director of the Boys Club-Big Brother Organization. Second row, same order: Charles K. Zupp Richard Kimble, Donald Michel and William L. Lamm.

Lackawanna Federation was given permission to pick three boys, but due to the fact that other counties in the Northeast Division could not send their quota and the competition was so great in Lackawanna County, officers decided on sending five happy youngsters. The Federation paid all expenses.

The Conservation Camp is conducted by C. W. Stoddardt, Jr., State College Extensi Department, who serves as director. T subjects discussed and taught to the bo are forestry, soil conservation, raising f fish and game, fly tying, and a one-day t to Fisherman's Paradise at Bellefonte, whe the boys are allowed to use their hand-ti flies on the many large fish in the wat of this anglers' favorite spot.

(mmoratta, Andrew, 337 E. 49th St., New York City, N. Y. Fishing without a license 25.00
(blin, Paul J., R. D. 2, Binghamton, N. Y. Operating motor boat without displaying license plates .. 5.00
skins, James E., R. D. 2, Olean, N. Y. One undersized trout 10.00
ller, George W., R. D. 1, Pine City, N. Y. Fishing without a license .. 25.00
ttler, Ann, 136½ College Ave., Elmira, N. Y. Fishing without a license 25.00
kes, Donald, Limestone, N. Y. Fishing without a license 25.00
Tornetta, Paul, 733 Quincey St., Brooklyn, N. Y. Fishing without a license 25.00
Baker, Lawrence J., 6810 Edna St., Cleveland, Ohio. Fishing without a license 25.00
Major, Walter, Cleveland, Ohio. Fished with meat in possession ... 20.00
Sipe, Rudolph F., Harrisonburg, Va. Fishing without a license 25.00
Clay, David B., 106 Ridenour St., Clarksburg, W. Va. One undersized trout 10.00

Vital Needs in Conservation Education

(*From Page* 1)

on. Again, it is the function of edution to develop a high sense of moral aracter with respect to maintaining d using natural resources. There ust be, in every individual interest in sources, an impelling motive that is cklogged with sufficient knowledge regard the welfare of all the people ncerned.

There is a great international sigficance in safeguarding the soil reurces of the world. The wealthy tion cannot ignore the poor neighor's plight which through lack of farable circumstance or through poor anagement, breeds hunger, filth, dise, and social and physical disorder. ikewise, the destruction of forests and ildlife cannot be condoned within the orders of one nation anymore than ey can be within another. Such ventualities evolve into circumstances at pit greed against greed and a ash of arms that further deplete the sources of the world.

A constructive program in the mangement of natural resources should elp nations maintain a sense of ecomic stability and a security that rises ove political boundaries and allevies the incidence of battle. All interational exponents of good will should e required to possess this understandg of man's relation to the environent and his willingness to keep the ndscape in order. This is not pure eory or philosophy, but a practical oncept that enables man to learn to ve in harmony with nature.

Any attempt to maintain natural reurces on a "sustained yield" basis ust be premised on the best scienfic information available. More techological knowledge is needed to conol erosion, fertility, longevity, and ebuilding of soils. Much is still to be arned about forest growth and mangement in various ecological regions f the world. Too little is known about fe histories, biotic influences, disease and parasitism, food cycles and predation, and other conditions that serve as limiting factors to the success of special flora and fauna in danger of extinction.

An international union for the protection of nature can and should do all within its power to encourage scientific investigation in the perplexities of sound management. This presumes an understanding of ecological principles upon which the success of species, including man, depends.

While it is of benefit to exchange experiences among scientists there is the more difficult problem of interpreting results for the layman. Most scientists speak in terms unknown to the layman. It is imperative, therefore, that scientists themselves devote attention to writing for those who need to make practical application of such knowledge. Otherwise, there is a need for training people in the universities and colleges who can capably perform the task of interpretation.

Since engineering represents a form of technology that makes inroads upon the landscape in the form of flood control, power development, irrigation, water supply, public utilities, mining, and so forth, there is much to be desired in including a minimum of resource understanding in the curricula of engineering schools. Without a semblance of conservation philosophy there is little hope of a harmonious discussion of plans for great feats of engineering which bring about subsequent changes of the landscape.

There is a tremendous need for establishing curricula in general conservation for teachers and others who may find employment in public relations. Graduates of this kind become the interpreters of scientific technology for the layman and help to formulate the conservation attitudes to which reference has previously been made. Students, thus trained, are capable of integrating the knowledge assumed for the benefit of the endless conservation interests involved.

Conservation in the public schools and other schools for children can be more readily accomplished if the institutions of higher learning set the example. The primary handicap among these schools is a lack of qualified teachers, that is, instructors who themselves are enthusiastically imbued with the obligation of teaching conservation. To attain enthusiasm requires knowledge and experience. Children from the earliest years of school age must be given the opportunity to come in closer contact with nature. Respect for the living environment, how to live and succeed as a part of it, with due regard for future generations should be considered a challenge for all youth. Through such means alone can we expect our children to become conservation conscious, to abhor waste and the degradation of nature.

Adult education cannot be as specifically directed as public schooling permits. Non-profit organizations, civic clubs, and many industries are performing a valuable service in providing materials for education in the proper use and management of natural resources. Constant repetition is required for learning and human thought must not be left to forgetfulness to the need for constant vigilance where natural resources are imperiled.

It must be repeated, in conclusion, that conservation is a state of mind, an application of good husbandry and a sense of cultural and aesthetic well being. Specific technologies are essential in the management of most resources and must be entrusted to the experts. However, specialists and laymen alike must approach resource problems together with a cooperative sense of preservation and use that will be compatible with the best interests of a world society of nations.

Fishing

In the early morn we're off to try,
Our luck beneath the open sky,
Where the wind blows fresh and free,
Far out upon the dark gray sea.

Or where the waters are clear and cool,
By laughing shallow and dreaming pool.
On the purling stream or flowing creek,
The wily trout or the bass we'll seek.

Perhaps our rods and reels we'll take,
Far out upon some shadowy lake.
What if we sit and dream all day,
Of the big ones hooked and got away?

We'll laugh and talk as fishermen do,
And then of course there's a lovely view.
At the end of day we always find,
Health of body and peace of mind.

But if only our luck holds out,
We may land a hefty speckled trout,
Or a bass or two to fill our creel,
And sit down at home to a lusty meal.

The time will come when we'll fish no more,
On the rolling deep or the lonely shore,
But we'll keep forever our cherished dreams,
Of the deep blue sea and the lucid streams.

—*John F. Boyle*

Try Flies For Bluegills

(*From Page* 8)

fly really rides high and takes considerable more "soaking" before it will sink. A bivisible fly as can be seen are flies near perfection for this dragging business.

Now consider the different fly patterns and their effectiveness. The sunnies have accustomed themselves to gorging on water worms and other insect life as well as bees, flies, crickets, ants and other bugs from the outer world. With this in mind, it does not seem unreasonable that flies which imitate their natural food will be readily taken. Aside from such patterns as "black gnat," "McGinty," "mosquito," "white miller," and other natural looking creation; the many colorful and artificial looking flies will take the sunnies too. Truly these little gamey fish are far from being as selective as trout.

Fishing wet flies, however, is somewhat different and more difficult than dries. The fly must sink naturally, and be retrieved verey slowly. Since the sunnie takes the fly by sucking the imitation into his mouth, the angler will do well not to strike too quickly. When retrieving the wet fly, the slight-

Fisherman William 'Bill' Luke, 29 months old of Berwick, Pa.

est pause of the line may denote a strike and then the arm should be raised and the hook set. Sometimes the pause of the line is merely the fly touching some under water debris, but chances are it is a sunnie and is the reward for striking.

Wet flies in the same pattern mentioned in dry will be effective. Both should be in a range of sizes from 12, 14 and 16's.

Indeed the sunnies today are abundant in almost every stream or lake, nation wide. I pondered the reason for their abundance and thriving ab ity. One reason is probably due to t few cases, when compared to oth game fish, that anglers spend mu time seeking them. Another reason probably due to the temper and spu shown by both the male and fema during spawning time.

Their spawning time is in the Spri of the year and the female fans a sm depression, some three or four inch deep, in the sandy bottom, by mea of fanning her tail. Quite frequent her tail is cut practically to ribbons the procedure. She deposits her spav once the nest is completed, and aft fertilization, cares for the roe wi never failing attention. Any intrude are promptly chased away, and I ha seen parent sunfish attack and actual rout a bass nearly twice her size. A minnow or small fish who tries to r her nest is generally killed. Even grain of sand or foreign matter whi drops on the nest is generally seiz and carried some distance away fro the nest. Is it any wonder why t sunfish thrive and multiply so fru fully?

This, however, is indeed to OU advantage. With proper feed, inside three years the fry is fully grown, a brother an eight to twelve inch su nie on light tackle is game enough f even you!

Black Bass on a Black Night

(*From Page* 13)

hurry the fish; that 5X tippet wouldn't stand much abuse.

Patiently I led the fish around while attempting to keep it out of the rocks until it was ready for landing. At last its rushes became shorter and I worked him in until I felt the knot between leader and line slip through the end guide. Keeping steady pressure on the rod, I eased the fish over the rocks and then pounced on the grey shape flopping in the grass. It was 13½ inches of largemouth black bass!

It was not the size of the fish, but the circumstances under which it had been caught that delighted me. I rushed into the cabin and showed my twitching prize to Jack. He grinned, grunted and went back to sleep.

Back to the point I went and stepped into the boat. Carefully, I shoved it out into the mouth of the cove where the surface of the water was broken only by the splashing of feeding fish.

Again I cast out the hair fly, with more liberty this time, and twitched it across the unseen surface of the lake. Almost at once I was fast in a good fish that ran circles around the boat before he finally tired. Then came the task of netting him.

Why, I will never know, but I had left that tiny tippet on my leader and couldn't chance lifting the bass into the boat. I could see him with my flashlight, and I now had my net, but I couldn't handle the rod, net and flashlight at the same time.

Finally, the bass turned on his side, and then, even in the darkness I could see him, and I slipped the net under a bass more than an inch larger than the first.

The next largemouth, that came only a few minutes later, was 16½ inches long! They were getting bigger each time, and still I clung to that hair of a tippet. Maybe I was afraid to take time out to remove the tippet—I don't know.

Then, on the other side of the boat there was a, "thlunk;" that sucking sound that comes when a cork is removed from a nearly full jug. I whipped the fly a few times to dry it and cast in that direction.

Instinctively, although I couldn't see anything but the reflection of the stars on the water, I knew that I had missed the spot. But, "thlunk," there it was again. For a fraction of a second, I hesitated, I was sure I had missed the spot, but then I raised the rod sharply.

Just as sharply came the answer as my rod bowed in respect to the sur monarch that raced for the center the lake. I didn't have time to wor about the tippet, I was too busy fee ing line from my automatic reel.

How long that bass and I argu it out, I have no way of knowin But long before the pale grey of t defeated fish showed through the dar ness along side of the boat, my wri and nerves were bordering on defe

Ever so carefully, I slipped the n under him and came up with ov three pounds of largemouth th measured 17½ inches.

Unable to keep this kind of fishi to myself any longer, I again we back to the cabin and held the floppi string of bass in front of Jack's nos This time he nearly bowled me ov in a dive for his trousers and shoes

Back to the lake we went togethe and, we never got a strike. Althou the bass were still feeding, they mu have been working on some oth type of bug for dessert. A short tim later, the lake smoothed over on more, and it was all over.

A few more bass and a pike th we picked up the next day gave a nice "take home" catch. But, if hadn't even had another strike, th thirty minutes in the dark on t Opinicon would have more than r paid me for our long trip for trout.

HE FAIRY SHRIMP

3 Carsten Ahrens

ommon names are deceiving. Just as a e horse isn't a horse and a star fish isn't sh, so a fairy shrimp isn't a shrimp. It s a fairy either. Like the true shrimp, ever, it belongs to the crustaceans along n the crawfish, lobsters, and crabs.

's an uncommonly graceful little being, of pinkish and at the same time rather isparent. It cuts all sorts of capers in rain water pool, and is up-side-down ing the gymnastics.

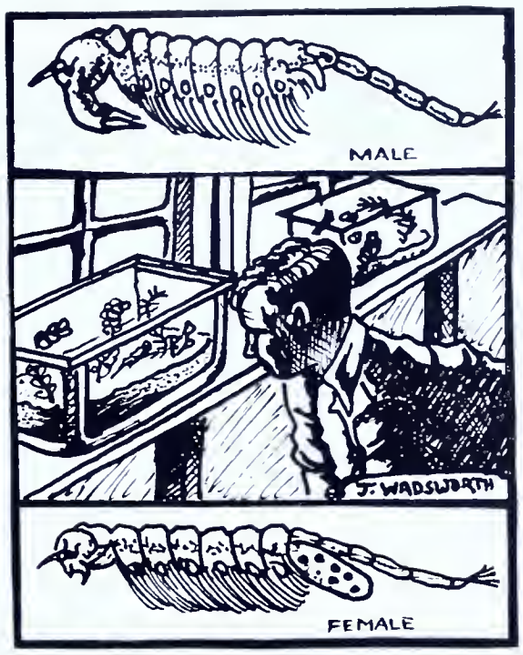
y favorite fairy shrimp pool lay near base of a giant basswood. Here as a boy, ould find these harbingers of spring as y as January. The pool was quiet and low. There was an abundance of last r's leaves that gave it a purplish-brown ng. Before summer really came, the ers became choked with algae, especially d scum, and by July, it was just a de- sion, not a pool.

ut during late winter and early spring, pool was actually alive with fairy shrimp. re were many similar pools in this wood- but oddly enough, only one other sup- ed these shrimp. I tried stocking other s but had no success. For some reason other just the two pools supported fairy mp. And the basswood pool was always leep shade while the other one was at edge of the lot and open to the sky.

hen I would first find the fairy shrimp, as the ice was breaking up, they would less than a fourth inch in length. In than a month they would be about an long. They lived on the algae and pro- a in the pools. Recently I returned to sit my old haunts, and found no bass- d, pools, or woodlot. Instead there was cely prepared field, ready to be planted oybeans.

hen you first study the fairy shrimp will be amused or intrigued by the 22 ney appendages that are so vitally im- ant to the animal. These eleven pairs ropellers are ventral, but since the animal ns with back downward, all the opera- s of the appendages are on top. These endages give the animal locomotion. y are actually gills through which the ture takes in oxygen and throws off on dioxide. A third function is their ring and preparing of food, and their ng up of a current in the water that carry this nicely filtered food to the th. The male has a bundle-like head end in a pair of claspers that are neces- for mating. The female has an external case just behind the last of the plume- appendages. The eggs can easily be seen ugh the transparent case, and as they ure often appear to be bright blue or n. The female is easily distinguished the male because of this case and also use of the absence of the huge claspers.

our state fairy shrimp are found only late winter to early summer. They in small pools formed by melting winter v or by spring rains. These are tem- ry pools, so the animal must hatch from egg, grow to maturity, mate, and lay its before the water of the pool has evapor- . The adults die when the water dis- ars, but the eggs have the ability to stand long periods of dissication. They



dry up with the mud and debris at the bottom of the pool, and show no sign of life until the next spring when rains again fill the pool. Some students declare that this period of drought is necessary in the life cycle; others say no. However, in our state, fairy shrimp are not found in permanent waters, and none are found in the ocean.

Horned Dace and Golden Shiners

(*From Page* 9)

string of pseudonyms than the horned dace. Its most common other name is roach, but it is also known as the American roach, American bream, bream, dace, bitterhead, gudgeon, and windfish. It is vaguely similar to the English roach, but this latter is a much larger fish and one of those for which Izaak Walton angled and wrote about.

It is a pretty fish. It is slightly greenish on top, fading into a pale yellow-silver on the sides, often with yellow-red fins. When taken from the water, it looks like a pale newly minted golden coin. It is a favorite bait when fishing for pickerel, or, where they are found, for northern pike. Perhaps its bright color makes it a good bait. Certainly, it is a flashy bait.

They are said to grow to a weight of 1½ pounds and a maximum length of one foot; but such a large golden shiner is outside my experience. The ones I have seen, and caught occasionally when angling for other fish, have seldom been over seven or eight inches long. They will take a fly readily, and can be annoying at times.

In winter, when ice forms an air-tight cap over ponds and lakes, decomposing vegetation on the bottom often will consume all the oxygen. When this happens, most fish die; but the golden shiner has a remarkable ability to survive with very little oxygen in cold weather, which makes it ideally suited to the shallow waters it often inhabits.

Some years ago we floated a canoe on a small pond, without visible inlet or outlet, in the Poconos, to see what fish life it held. The only fish we caught or saw were golden shiners.

In a severe winter that followed, the pond froze to great depth, and when the ice disappeared dead pickerel appeared on the shores to everyone's surprise. The pickerel were numerous and large, all victims of a depleted oxygen supply. However, the golden shiners survived, and are as numerous there as ever. When and if pickerel return in numbers to the pond, the shiners will be on hand to provide food for them.

There are two relatives of our golden shiner, so closely similar that it takes a scientist to tell them apart. One is the western golden shiner, the other the southern roach.

There are two aliases under which the horned dace and golden shiner travel that were not mentioned. These are their scientific names. The horned dace is *Semotilus atromaculatus,* and the golden shiner answers to *Notemigonus crysoleucas.*

Together, Mr. and Mrs. *Semotilus atromaculatus* and Mr. and Mrs. *Notemigonus crysoleucas* are very important people in the fishing picture, since they and their numerous families supply good bait for the angler, and good food for trout, bass and other game fish.

From the Editor's Mailbox

Johnstown, Pa.
July 12, 1950.

Editor, Pennsylvania Angler,
Harrisburg, Pa.

Dear Sir:

I am an ardent Fisherman's Paradise fan. Believe it to be tops in fishing anywhere, and that it is contributing greatly in making anglers of our youngsters and older ones who take up fishing.

Believe also that everyone of the corps of attendants at Fisherman's Paradise deserve a vote of thanks for the courteous, efficient and impartial manner in conducting the project. They have helped a lot in making it a real place to fish.

Sincerely,

John Golley
358 Beatrice Avenue
Johnstown, Pa.

A night club is a place where they have what it takes to take what you have.

The person who repeatedly says he's tired of living isn't tired—he just isn't living.

Lamar Federal Fish Hatchery Dedicated

Congressman Leon H. Gavin of the 19th District of Pennsylvania, principal speaker at the dedication of the U. S. Fish and Wildlife, Fish Cultural Station at Lamar, July 12, called on Pennsylvanians to practice conservation as one sure way to keep this country strong and prosperous.

Speaking before several hundred sportsmen at the dedication, Congressman Gavin said:

"Conservation is wise use and management of our resources. In the past we have paid too little attention to safe-guarding these resources; now with the world looking to us for help we must endeavor to maintain and improve our forests, our clear and abundant water, and our fish and wildlife."

Meanwhile, a thousand or more sportsmen roamed over the grounds of the station, inspecting the facilities, and waiting to cast their lines and try their luck in newly-stocked Big Fishing Creek.

S. Dale Furst, Jr., president of the Pennsylvania Federation of Sportsmen's Clubs, introduced a host of prominent Pennsylvania sportsmen and notables, calling the group the largest gathering of sportsmen he has seen in a long time.

In the group were E. W. Tompkins, chairman of Pure Streams Division of the Penna. Federation of Sportsmens Clubs; C. H. Nehf, editor of the Penna. Federation News; Ralph R. Holtzman, president of the Consolidated Sportsmen of Lycoming County; Albert G. Dearman, Knoxville, Pa., and Johnnie Mock of the Pittsburgh Press.

Federal Fish and Wildlife authorities present were Albert M. Day; D. R. Gascoyne, regional director of Fish Culture, Boston, Mass. and H. C. Markus, regional supervisor of Fish Culture, Boston, Mass.

Others present were Louis S. Winner, of the Penna. Fish Commission; C. R. Buller, chief fish culturist of Pennsylvania; Robert Brown, fish culturist from Pleasant Gap; Thomas F. O'Hara, engineer in the Penna. Fish Commission; James Biddle, fish culturist of the Pleasant Gap Hatchery, and Arthur D. Bradford, fish pathologist of the Penna. Fish Commission.

Congressman Robert F. Rich of Woolrich, from the 15th District of Pennsylvania, presented the dedication plaque to Albert M. Day, director of the Federal Fish and Wildlife Service.

Mr. Day then presented the plaque to Roger P. Tanner, superintendent of the Lamar Fish Cultural Station. Mr. Tanner also accepted a plaque for himself, "in recognition of his outstanding accomplishments."

The dedication ceremony was sponsored by the Clinton County Sportsmen's Federation, affiliated with the Pennsylvania Federation of Sportsmen's Clubs. J. Arlington Painter, president of the Clinton County group, made the original introductions.

After the dedication and entertainment program, fishermen crowded to Big Fishing Creek adjacent to the hatchery. The stream had been stocked with trout and was opened just after the ceremonies.

Fishermen's Lament

Backward, turn backward, oh time, in yo
flight;
Please make 'em bite again, just for tonigl
I've sat on this boulder for many long hou
And baited with crawfish and doughballs a
flowers,
And minnows and ryebread and liver a
bees,
And grasshoppers, fishworms and limburg
cheese.

And never a nibble—a jerk on the line—
Of sunfish or sucker I've seen not a sign,
My arms are fried brown and my nose
burnt red—
My seat is worn thin and my legs are bo
dead.

My stomach is puckered, tied up in a kn
I'm sick, disappointed, disgusted, and hot,
I'm sore, and I'm dirty and thirsty and stif
I've lost my tobacco and ain't had a whiff.

It's fourteen long hours by the road to n
shack—
To cold cream—to comfort—to rest and
snack.
Oh backward, I guess, is the way I shall tu
They don't want to bite and I don't give
durn,
For I have been fishing—I've had a good da
Now all that I want is some grub and the ha

—*Tennessee Conservationist*

Coal Mining Permits Denied

The Sanitary Water Board has turn down six more applications for coal mini operations to prevent pollution of the strea from acid mine waters. The streams are n listed as clean streams and in some i stances serve as public water supplies.

The Board also refused to issue a perr for the re-opening of a deep mine on S Run. Scar Run is less than two miles lo and it is declared the discharge of a mine waters from the mining operati would adversely affect Loyalsock Creek.

Fishing Streams

(*From Page* 5)

anglers who use bass bugs and other small surface lures in fishing for small mouth bass.

Finally, the tail of the pool is a real challenge to even the most skilled fisherman. The slightest disturbance—such as careless wading—will send ripples across the surface of the water. Vibrations of awkward feet stumbling over rocks seem to travel with great rapidity through this shallow water. And the very fact that the water is shallow, affording little protection, makes the fish wary when they are in the tails of the pools.

It's a kind of standard practice to wade into the shallow tail of a pool, get into fishing position, and then smoke a cigarette until the water quiets down and the fish are ready to feed again.

But even with that patient maneuver, the battle is not won.

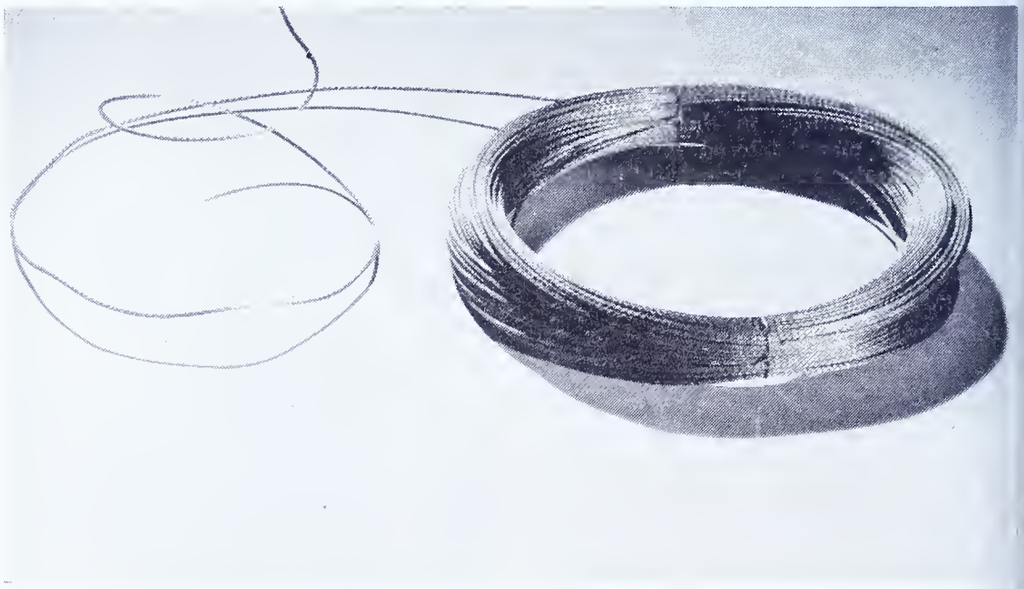
A single careless cast can send the fish darting in fright in all directions —often back into the safety of the pools.

With it all, however, the tails of pools are so favored by game fish that often the biggest trout or bass in a stream will be caught while they are foraging in this kind of water.

Truly, the stream pool, with all its variety of make-up, is one of the most fascinating—one of the most wonderful—and one of the most fruitful parts of any stream, regardless of its size.

(*To Be Continued*)

New Metal-Nylon Line For Trolling



"Monolon," new trolling line for fresh- and salt-water fishing, features fine "Monel" meta wire braided around a nylon monofilament core. Made by Braided Wire Products Company o Grosse Pointe, Mich., the new line is non-corroding, extremely flexible, and virtually non-kinking It is being introduced in 30-32 and 45-50 lb. test, but will be made later in a wide variety of tes weights suitable for all types of trolling.

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

ish Commissions Laboratory Making Tests of Pollution

Chemists of the Bureau of Engineering, State Department of Health, which is executing the Clean Streams program, have developed a valuable answer to the action of cyanides in the research being conducted into the effects of pollution on fish. It has been found that cyanides in water in an amount of 1,000 parts per million will have no adverse effects upon fish until the cyanides become exposed to sunlight. After that exposure they become lethal and only one part per million of cyanides will cause fish to show distress in 15 minutes and cause death in an hour.

The research is being conducted at the Pleasant Gap Laboratory of the Fish Commission with funds provided by the Federal Government under the anti-pollution law which designates appropriations to the States for research into industrial wastes.

Fish, it is explained, serve as an indicator of the condition of water and are therefore, used extensively in pollution experimental work. Water polluted to an extent which will not permit fish to live is looked upon as unsafe for drinking and for recreation and in many cases is unfit for use by industry.

More Companies Receive Orders

Orders to abate pollution of the streams or submit plans for waste treatment have been issued by the Sanitary Water Board to six additional industrial establishments in furthering the Clean Streams program.

The latest concerns receiving the orders are National Lead Co., Pittsburgh Cold Storage Co., both located along the Allegheny River; International Paper Co., located along the Susquehanna River; St. Marys Carbon Co., located along Iron Run; Harrington Dairy Co., located along Little Loyalsock Creek; Musser Potato Chip Co., located along Swann Run.

The Board also ordered that the Bureau of Engineering, State Department of Health, notify the Borough of St. Marys to abate the discharge of the waste from the Straub Brewers which is carried through the borough sewers to Elk Creek.

Courts Issue Injunctions

Preliminary injunctions have been issued by the courts in two different counties against six coal mine operators for having engaged in the mining of coal without first having obtained permits from the Sanitary Water Board which is a requirement of the Clean Streams law. The action marks a continuation of the crackdown by the Board against violations in the mining of coal.

The other injunctions were issued by the Fayette County Court against operators of drift mines in the Indian Creek area in that county. Permanent injunctions were recently granted by that court against three other operators in the Indian Creek section.

Clean Streams Program Progress

According to the records of the Sanitary Water Board about 220 industrial concerns have complied with the orders of the Board to abate pollution of the streams under the Clean Streams program. In most of the cases the order was complied with by connecting with city sewers under agreements made with the municipalities for the discharge of the wastes to those sewers or by building sub-surface systems such as septic tanks or tile fields to which the wastes are discharged to prevent any flow to the streams.

The concerns placed in the category of having complied with the orders to abate are in addition to the more than 250 industries which have built or are constructing waste treatment systems, since their wastes are not treated before leaving the plant but are prevented from going to the waterways.

Throughout the State, and particularly in the more industrialized areas, many industries discharge their wastes to the municipal sewers which takes them outside the scope of the clean streams law since the municipality which agrees to the discharge of the wastes to its sewer system is responsible under the law for the treatment of those wastes.

The 250 industrial concerns which have built or are constructing waste treatment systems are in addition to the 150 anthracite collieries and about 20 bituminous coal operations which use washeries, which have treatment systems in operation abating pollution of the streams from silt. All but 11 collieries in the anthracite fields, which come within the scope of the clean streams law, are operating desilting systems. At nine of the 11 collieries systems are being built and plans have been approved for the systems to be built at the remaining two operations.

Clean Streams Win at Election

The Sanitary Water Board has been informed that the voters of Norristown approved a bond issue of $1,350,000 at the last election for the construction of additions to the sewage treatment works to provide a higher degree of treatment.

Norristown is now the second city along the Schuylkill River to enter upon construction of sewage treatment works in accordance with the orders of the Sanitary Water Board, and also the second largest in population. Reading, the largest city along that river, awarded some contracts in March, beginning a construction program which will amount to about a half million dollars. In that case it is also necessary to build additions and rebuild the present treatment works to provide a higher degree of treatment.

Pollution from silt from the anthracite breakers having been abated and dredging of the river channel being well advanced, the Board is requiring that all municipalities along the river build sewage treatment works to complete the anti-pollution job along that waterway.

Grants to 165 Municipalities

Eleven more municipalities have received grants-in-aid amounting to $95,632.86 from State funds as part payment of the costs of preparing plans for sewage treatment works under the Clean Streams program.

The most recent checks were issued to Shillington, Berks Co., $2,224.34; Wilkes-Barre, Luzerne Co., $39,195.95; Springetsbury Township, York Co., $2,038.84; York, York Co., $26,500; Plymouth, Luzerne Co., $10,017.79; Lewisburg, Union Co., $2,765.09; Spring Grove, York Co., $2,610.51; Monaca, Beaver Co., $4,199.99; White Haven, Luzerne Co., $1,562.58; Danville, Montour Co., $3,084.12; Greensboro, Greene Co., $1,433.65.

Payments totaling $880,310.82 have now been made to 165 municipalities under the provision of the Clean Streams law which requires the payment of up to 50 percent of the cost of the preparation of plans for sewage treatment works to municipalities which have been ordered to prepare plans under the anti-pollution program.

Operators Cited for Violations

The cases of 11 coal operators have been referred by the Sanitary Water Board to the Attorney General for action as a result of violations of the Board's orders. Seven other operators have been notified that reinvestigations made by the Health Department Bureau of Engineering revealed violations of conditions contained in the permit issued by the Board and that they must quit the violations or their permits will be revoked.

In each of the cases referred to the Attorney General, the Board did not issue a permit but violations consisting of a continuation of acid discharge or operating without a permit are reported.

In the monthly investigations by the Bureau of Engineering, 92 cases were found to be in compliance with the conditions in their permits which prohibit discharge of acid mine drainage to the stream from the operation.

Permanent Injunction Issued

A permanent injunction has been issued by the Clearfield County Court restraining Kroch & Gearheart from mining coal at their stripping operation in Brady Township. Action was instituted for the Sanitary Water Board by Deputy Attorney General Robert J. Trace, legal advisor for the Board.

Application for the operation of the mine was made by Kroch & Gearheart but refused on February 15 by the Board because the operation is located on the watershed of the Punxsutawney Water Supply, serving approximately 12,000 people. It was charged that the concern operated the mine in spite of the refusal of the Board to issue a permit.

The injunction became effective May 8. A temporary injunction was issued by the court on April 25.

The Lovely Miramichi

Up near the top of the mountains, where the red deer have their home,
Where the spruce trees grow in millions, and their needles carpet the loam,
Where the black bears feed on beechnuts, and the moose's plaintive call,
Breaks the silence of the evening in the early months of fall:
Where the dewdrops in the morning, and the melting snows of spring,
Brings water to the flowers, and the birds begin to sing:
Tumbling brooks from off the hillsides start their journey to the sea,
'Tis the birthplace of a river, The Lovely Miramichi.

Growing, ever growing, in volume and in strength.
United waters gather from the countless valleys' length;
And the North Branch meets the South Branch, in a pool so clear and deep,
Where the brook trout and the salmon, in their freedom swim and leap,
The wild rose and the alder, grow near the water's edge,
And the current of the river is hampered by a ledge,
All the moving waters murmur, as if in mild protest,
And the wild duck in the bullrushes is hidden on her nest,
In the air the swallows skimming, and the buzzing of a bee,
Lends enchantment to this river, The Lovely Miramichi.

Over sand bars to the deep pools, where the silver salmon stay,
Resting on their journey upward, or take out time to play,
Where the muskrat and the beaver, have their homes upon the shores,
And their food is stored for winter, not too distant from their doors,
The horned owl and the eagle, in the light of dusk or day,
On silent wings with searching eyes, go hunting for their prey;
Where the red man had his tepee, and built his bark canoe,
The white man built log cabins, so there is little new.
Still the river keeps on flowing in its valley to the sea,
And God has made no other like, The Lovely Miramichi.

The white man and his maiden, they have come from many lands
To live in pure contentment, to walk upon the sands,
To angle for the salmon, or for the speckled trout,
See the splendor of the sunset as the day is fading out;
The camp fire in the darkness brings cheer to young and old,
To millionaire and trapper, as stories bold are told
Of valor, romance, fiction, and the facts of history,
All have added to the glory of the Lovely Miramichi.

The cabins in the wilderness, with the river flowing by,
Silence in a wonderland, a rainbow in the sky;
A fragrant bed of balsam boughs, where tired minds may sleep
While kinfolk of the forests their nightly vigil keep;
The bannock in the morning, the kettle on the flame,
The odor of the coffee brew, who've tasted life so free
Except when we are camping on The Lovely Miramichi.

From the birthplace of this river, midst the mountains of the west
To the tide that comes to meet it, of all others it is best;
And God has used his talent, in making such a stream,
Where life is still worth living, and it's possible to dream
Of peace and understanding, and love among mankind,
Released from Hell and Hitler, humanity may find,
Pray when you cross the Jordan and meet the referee
You will hear the grand decision, "You are on the Miramichi."

Bill Griffin, (Guide),
Boisetown, New Brunswick.

PENNSYLVANIA Angler

September 1950

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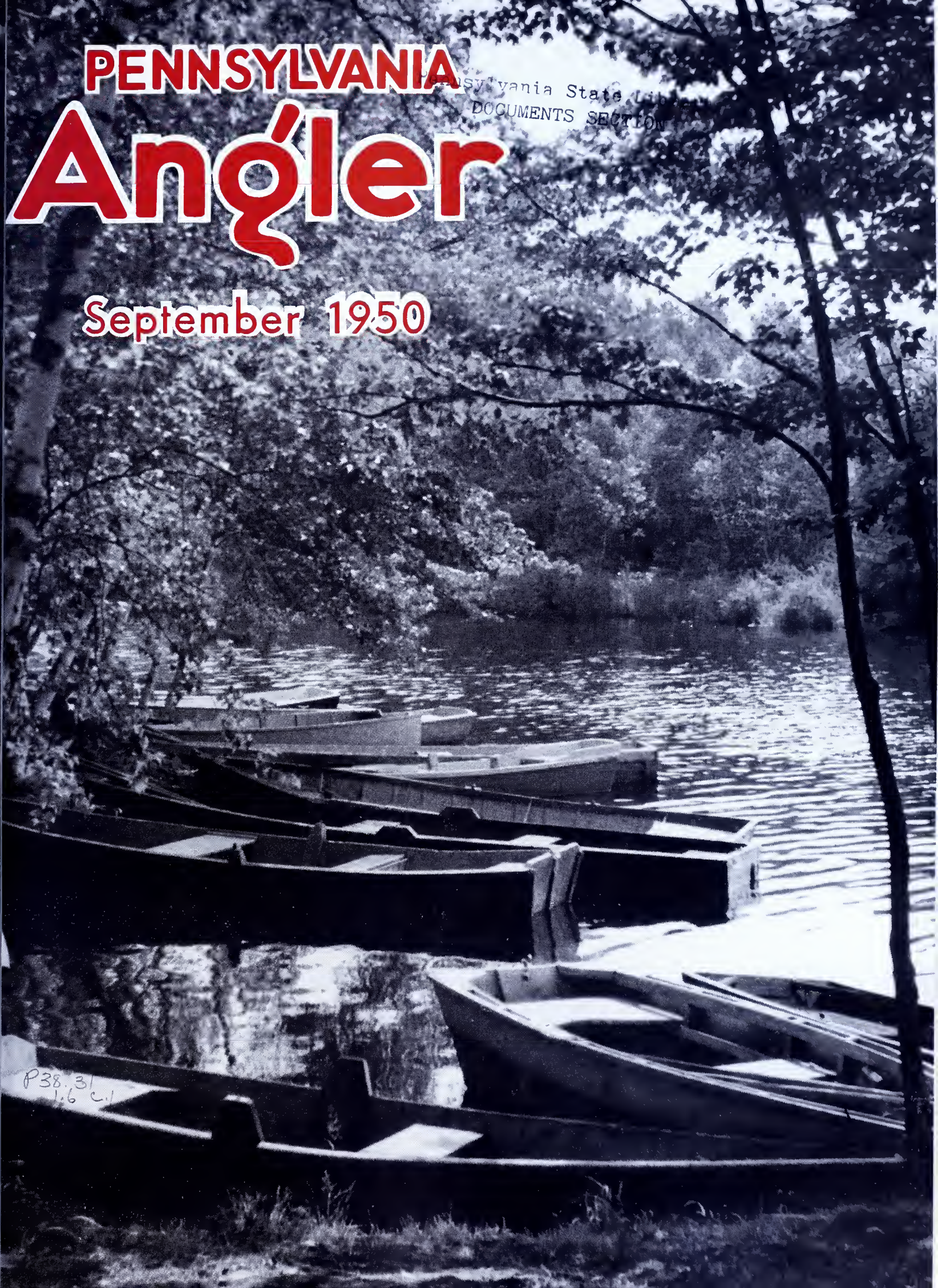

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HON. JAMES H. DUFF, Governor

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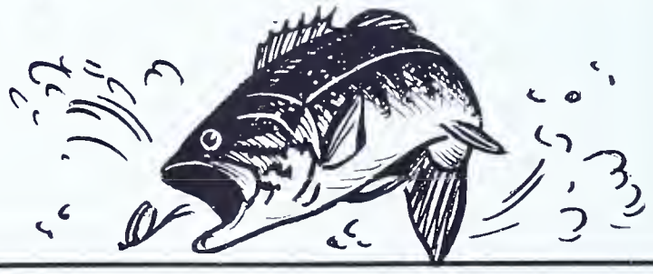

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
FISH COMMISSION
HARRISBURG, PA.

The Angler

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The Cover . . .

September:

Summer wains on the ponds and streams.

CREED

OF THE

Brotherhood of the Jungle Cock

WE WHO love angling, in order that it may enjoy practice and reward in the later generations, mutually move together towards a common goal—the conservation and restoration of American game fishes.

TOWARDS this end we pledge that our creel limits shall always be less than the legal restrictions and always well within the bounty of Nature herself.

ENJOYING, as we do, only a life estate in the out of doors, and morally charged in our time with the responsibility of handing it down unspoiled to tomorrow's inheritors, we individually undertake annually to take at least one boy a-fishing, instructing him, as best we know, in the responsibilities that are soon to be wholly his.

HOLDING that moral law transcends the legal statutes, always beyond the needs of any one man, and holding that example alone is the one certain teacher, we pledge always to conduct ourselves in such fashion on the stream as to make safe for others the heritage which is ours and theirs.

Fishing Streams

By Dick Fortney

Part Two

SWEETEST song in the ears of a fisherman is that of a riffle.

It may be the merry gurgle of fresh, cold water tumbling over and sliding around rocks that lie in the course of the stream.

Or it may be the rushing, angry roar of white water smashing against any obstruction lying in its path.

The gurgle of the riffle of a trout brook can give a man a feeling that all is well with the world; that nature is laughing merrily with him—can even lull a man to sleep with its gentle song.

But the roar of a big stream riffle is a challenge to man. It is nature in a bold and defiant mood. It makes the angler stop to consider whether he wishes to pit the strength of his body against the white-capped fury of the stream in which he fishes.

Large or small, however, the stream riffle is an angler's favorite water. It holds mystery, too, for the broken surface of its water can easily cover good fish from human eyes.

The little stream riffle always flattens out into a sigh of fast water at the head of a pool. There it loses its voice and much of its force. The riffle in the big stream undergoes the same transformation, and also loses its voice. But its giant strength is only slowly diminished, being hidden under the guise of a smooth surface.

The mystery of the riffle is one of its greatest attractions.

I remember one night, in the middle of a bass-fishing expedition, a friend and I made our way along a stream from a large pool to the next one upstream. We walked along a rock-strewn shore past water which was ruffled and roaring and wholly unsuited to the type of angling in which we were engaged at the time.

To spot our location—for the walk was a rather long one—my friend turned on the beam of his flashlight. We saw that we still were some distance from the pool we wished to fish, so my friend turned the beam of his light on the rushing water just to our right.

As the round beam of the light struck the water a fish of truly tremendous proprotions literally took off for the far shore. It bashed its huge body against the side of a rock in its fright. It sent spray flying in such quantities that it could be seen in the light. Above the purr of the riffle we could hear its splashing course out of our sight.

That big fish was in the riffle for just one purpose. It was busy feeding.

It was pointed out in the first article of this series that most of the natural forage on which fish feed is to be found in riffles. Here, also, the movement of the water dislodges nymphs and larva from the bottom and sends them moving through the water. Here, also, insects lay the eggs that perpetuate their species.

Obviously, riffles are the restaurants of the fish world.

And if fish are in the habit of feeding in riffles, the wise angler also does a lot of his fishing in that type of water.

Not all stream riffles are worth fishing, however.

There are some that are so shallow that every rock on the bottom can be seen. That word rock should be used advisedly, for in this type of riffle the word stone would be a better definition. The point, however, is that riffles which are shallow and flat afford little or no hiding places for fish, hence fishing them—at least in the daylight hours—is largely a waste of time and energy.

It should not be forgotten, at the same time, that often under the cover of darkness fish will move into precisely this kind of water to do some of their most enthusiastic and active feeding. That is a fact that should be kept in the minds of night anglers.

The riffle that is really productive can be easily spotted. If its water is so rough and its depth sufficient that the angler cannot see to its bottom easily the chances are that it is a good riffle. For fish feed in a riffle that is deep enough and rough enough that they cannot be spotted easily by the creatures that prey upon them.

A good riffle contains pockets—that is, areas of water of various sizes that are deeper than the rest of the riffle. These may be formed by rock formations on the bed of the riffle. They may be spaces which the action of the moving water has hollowed out in the vicinity of rocks. Whatever the cause these areas of deeper waters are good fishing spots, because here the force of the current is weakened, and here the fish are able to hold their positions comfortably while feeding.

Fishing a riffle is not difficult. All the angler has to do is to maneuver his bait or his lure so that it gets into the vicinity of rocks and other obstructions and into these pockets where fish wait. Of course, this involves such problems as getting bait or lure down near the bottom in swift water; floating a dry fly on a quiet pocket of a riffle without the neighboring currents

This foaming riffle is tough-looking, but fish do not hesitate to brave its force in search of food. Big rocks protruding above the surface form little eddies of quiet water that are very much worth the angler's attention.

ragging it under, and so on. But nough has been written and spoken n those problems that there is no eed to take up space with a discus- on of them in these paragraphs.

The point to be emphasized—that very good angler must always remem- er—is that no more productive spot n a stream can be studied and fished roperly than a riffle.

Fast Stream Currents

Tied in directly to any discussion of tream riffles is mention of the swift urrents that riffles usually set up in ne heads of stream pools. They per- orm two primary functions—carry- ng food from the riffles into the pools nd also keeping a flow of freshly erated water moving into the bigger ools of the stream.

These head-of-the-pool currents are avored feeding grounds of big trout. nstinct has taught these large fish nat it is far easier—and safer—to rowl the fast water currents than it s to enter the riffles in search of in- ects, minnows, and other natural food.

Incidentally, you surely have noticed hat at the head of a large pool these urrents that stem out of the riffles re very definitely marked in many ases. Foamy bubbles will drift down nto the pool on the exact course of he currents. Usually, if there is no isible evidence of the current such as his, a careful observation of the move- nent of the surface of the water will ndicate the exact location of the fast vater.

Beneath these currents at the head of a pool usually is an area of deep water. This is an important fact to know, for the deep water gives the fish protection, a safe place in which to take up positions to await the food the current may carry down to them from the riffle.

In water such as this the small-mouth bass will not hesitate to pursue a school of minnows, and trout will feed on insects floating down from the broken water just upstream.

Here is a typical riffle in a trout brook. It contains numerous little areas of quiet water where fish are likely to lie in wait for the food the current dislodges for them.

If pool-head currents are a boon to a fish, they also are kindly water for fishing. They will carry a delicate dry fly high on their surface at good speed. They will tug at a wet fly, streamer, or bucktail and make it easy for the fisherman to give these lures appearance of life. They provide enough resistance to bring out the flash of a spoon, the glitter of a spinner, or the enticing action of an under-water plug.

Remember that the water of a pool-head current is highly charged with oxygen, as a result of its tumbling through the riffle, and also is quite likely to be of lower temperature than that of the stream pool. That is one more reason why it is a favorite haunt of fish.

These currents have one feature similar to that of the riffle—they contain pockets of deeper-than-average water which are a great attraction for fish, and the angler will reap dividends from seeking out these spots as carefully as he does the pockets of a riffle.

One more point—trout have a habit of feeding just on the edge of these riffles and deep-water runs, in quiet water fairly close to shore. This provides water to be explored thoroughly with such lures as a wet fly.

Riffles and fast water—they are the elements that give streams life and character and beauty.

They are worthy of every hour the angler is willing to spend in studying them. Worthy, also, of the angler's best efforts in fishing them.

(To be continued)

A ledge of rocks extending from the left-hand shore turns the course of this stream and forms a gentle riffle along the right-hand shore. The surface looks comparatively flat, but as a matter of fact there are several deep pockets in this one small riffle.

The Fallfish By Bill Wolf

THREE times I have caught a fallfish large enough to rank well up with those considered much better "game" fish. That is, they were 16 to 18 inches long. And each time, the fallfish put up as good a battle as any trout or bass its own size and weight. For this reason, and because they will rise to the fly as readily as any fish in our waters, I consider them one of Pennsylvania's best sport fishes if fishing for fun—and not for food—is the object.

The first really large one I ever caught was an 18-incher taken a good many years ago when on a camping trip along the Lehigh River below its junction with the Tobyhanna. I was plug casting for smallmouth bass at the time, dropping the lure near the cliff face which formed the bank opposite the sandy one from which I was fishing. The water near the cliff face was deep and dark, so that I couldn't see too clearly what was happening when there was a smashing strike at the lure; but I did catch a glimpse of a silvery fish that couldn't have been a bass.

He was hooked securely, and at first I thought a nice rainbow trout had taken the small lure I was using, but then it didn't fight like a rainbow normally does near the surface. It made a few leaps, but most of its battle was a bulldog affair under the water and I grew more puzzled as I gradually worked it across the wide stream. Finally I could see its bluish back, its silvery sides and the familiar touch of red about its gills and front fins, and knew that I had caught one big fallfish.

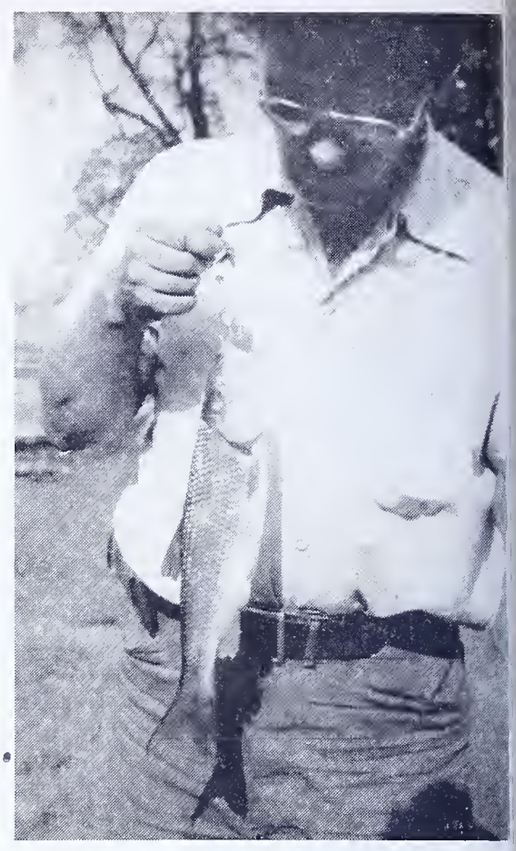
The second time I was bass fishing again, but this time on Deer Creek in Maryland, a short distance below the Pennsylvania line. The same thing happened, but I thought I had a nice bass on that occasion.

The third time occurred last year when camping again along the Lehigh. I was using a dry fly for trout, when my younger daughter who shared that trip told me she saw a rise in some very fast water. I cast to where she indicated, and caught a small chub; but she insisted that she had seen a much larger fish. So I cast again. The dry fly hit the rushing water and danced lightly in swift flight downstream. Again, there was a silvery flash as the fish "killed" the fly, but this time I was close to see at once that it was a huge fallfish—and a moment later I knew I was in for a fight.

(Editorial note: Trout, bass, walleyed pike and similar major game fish hold the spotlight in Pennsylvania's angling interest, but there are many lesser fish which also provide good angling, or are of especial importance as bait or food for the larger fish. This is another of a series of articles dealing with these minor fishes of our State.)

There was no holding it because its weight and the rush of the fast water were too much for the light leader. I either had to lose the fish or go along with it, so I went along, stumbling downstream over the rocky bank, occasionally applying some pressure to steer the fallfish from a projecting rock which threatened to snap the leader, but most of the time just helplessly following along until it began to wear out a bit from its furious battle. Finally, I was able to snake it out of the water and look at it for a moment before returning it. A trout could not have put up a better fight.

Anyone who fishes much with streamers and wet or dry flies in Pennsylvania waters is bound to catch fallfish. I have taken many smaller ones than the three mentioned. They were the largest and ran near the fallfish's extreme length, which may go to 22 inches on rare occasions. But, large or small, I have enjoyed catching everyone of them. And, yet, I have seen anglers, so bent on catching trou only, throw fallfish out on the ban after muttering something abou "damned chubs."

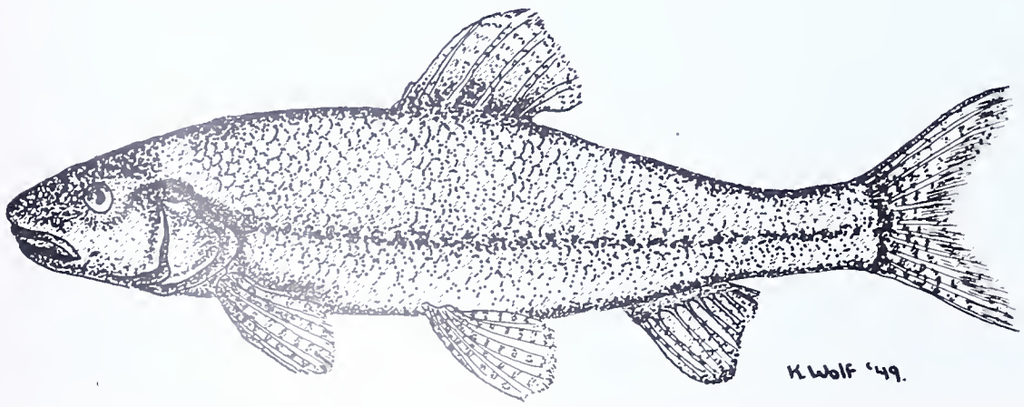


A large fallfish caught on a plug when fishi for bass.

This is a clean-living fish, preferrin much the same waters as trouts an smallmouth bass. It thrives nicely i the rushing currents of large stream in the quiet pools of smaller creek and in lakes. Where it is too abundan it is a serious competitor with bas and trout because it likes the sam food they do; but where it is present i normal numbers it helps the bass an trout population since small fallfis are ideal food for them.

Their value as a food fish for othe species is one of the reasons why the shouldn't be cast contemptuously o the bank, or even scorned when the slime up a dry fly while fishing fo trout. I'll admit it is exasperatin when small fallfish drown dry flie while trout fishing; but there ar times when trout won't strike, and th fallfish are always there, ready an willing to take your lure and give yo a good fight. Little more could be aske of any fish, except that it provide goo eating, and the fallfish is not to b despised even here, as we shall see.

They are just about the first fish t take a fly in the early spring, an there is no better training for trou fishing in mid-April than to go fl fishing for fallfish in mid-March. The strike very much like a trout, whic will sharpen your reflexes in settin the hook, but their mouths are softe than a trout's, and it actually require



The fallfish *(Semotilus corporalis)* is the largest member of the true minnow family in our waters, sometimes reaching a length of 18 inches or more. It is a sporting fish, especially on a fly rod, although the larger ones will take plugs.

rater skill to bring them to net. If ad to teach a novice fly fishing for rut, I'd take him first to a stream ding many fallfish and put him to ating.

Because of their surface feeding its, they are the near-perfect dry fish. They will rise to dries from earliest warm days in the year, l, since they often live in schools, y will dimple the entire surface of quiet pool in the evening feeding iod. Since they are easily frightd, they will teach the dry fly beiner the patience and caution and ll he must possess later to catch rut.

t seems odd to call a fish that can to 20 inches or more in length, l several pounds in weight, a minv; but that's what the fallfish really It's the largest of our eastern minvs, if we except the imported carp ich also belongs to the minnow famof Cyprinidae. The scientific name the fallfish is *Semotilus corporalis,* *Semotilus bullaris* in an older nonclature. To Pennsylvanians, it is nost always known as the fallfish, t it has many other names wherer it is found east of the Alleghenies. rth, in New York State, it is poprly called the Mohawk chub. Elsere it is known as chub, silver chub, vin, white chub, windfish, corporal, even as a dace.

ts distinguishing characteristics are ge scales, steel blue back, silvery es, with a flush of red on the belly d fins of breeding males in the ing. Unlike other minnows which ve rather stupid mouths, the fallfish s the grim lines of a fighter about jaws, and its body is sleek and werful. Altogether, it is a handsome h.

Some of its considerable energy is own by its spawning practices. The le builds the nest by carrying pebes and small stones in his mouth to e selected site. Some idea of the inse labor this involves can be gained the dimensions of a nest observed me years back in the lower Ausable ver of New York. It measured 38 45 inches at the base and was aped like a cone with a height at e apex of 10 inches. Imagine the ousands of pebbles it must have ken to build that huge mound.

You can fish for them with bait if u want, and they will take almost ything offered, but why go to the ther of obtaining bait when they ill hit artificials? It's impossible to y what artificials are best for them cause they have hit small plugs for e, small spoons, large and small dry es, any kind of wet fly and streamer, fly-and-spinner combinations. Hower, when they are hitting freely on

(*Turn to page* 17)

Pennsylvania Fish Commission Activities

Joint Meeting of the Fish Commission and the Penna. Sportsmen's Federation

At a joint meeting of the Fish Commission and the Pennsylvania Federation of Sportsmen's Clubs held at the Spring Creek project, popularly known as Fisherman's Paradise, the Commission discussed the various resolutions which were passed at the Federation meeting held in Harrisburg during the month of February together with other subjects pertinent to the fishermen of Pennsylvania.

The Commission is hopeful that this can become an annual meeting, for in this way it is believed the Federation and the Commission can more wisely discuss and solve the problems affecting the public fishing program throughout the Commonwealth.

Commission Organizes—The reorganization of the Pennsylvania Fish Commission was effected at its meeting held July 7, 1950 when Milton L. Peek of Radnor was reelected president; Bernard S. Horne of Pittsburgh, vice president; and C. A. French, of Ellwood City, Executive Director.

Bait Fish—The many difficulties encountered in connection with the sale of bait fish resulted with the Commission setting up standardized forms. These forms will not only be of assistance to the hatchery selling bait, but will also serve to protect the fishermen who have them in their possession.

Nursery Waters—The following sites were set aside as nursery waters:

Blair County—Kneidingers Dam, Logan Township, 1/3 acre
McMahons Dam, Logan Township, ½ acre
Dr. Mattes Dam, Logan Township, ½ acre

At the request of the Altoona Wildlife Conservation Club, the above areas were set aside as nursery waters until July 31, 1953.

Somerset County—At the request of the Berlin Sportsmen's Association, *Brush Creek,* was set aside as a nursery water until July 31, 1952.

Northampton County—At the request of the Monocacy Field and Stream Association, the race running parallel to the Creek along the Bat Pike in northeast section of Bethlehem, Bethlehem Township, Northampton County, was set aside as a nursery water.

Nylon Netting—Lake Erie—The nylon netting action taken by the Commission on January 9 has been rescinded. At the January meeting the Commission set up regulations prohibiting the use of nylon netting which reads as follows:

> That in accordanace with Chapter 3, Article 2, Section 100 of the Act of May 2, 1925, P. L. 448, the use of small-mesh nylon netting in the waters of Lake Erie under the control of the State of Pennsylvania is hereby prohibited and it shall be unlawful for anyone engaged in commercial fishing in Pennsylvania to have in the waters of Lake Erie 4¾ inch mesh nylon netting which shall exceed 15,000 yards at any one time (that the aforesaid yardage be strung in any manner that will best fit the needs of the operator; that the length of the net, or the number of nets per box, or the number of boxes, may be any fractional part of the permitted 15,000 yards) It is further required that said 15,000 yards, or any fractional part thereof be lifted at least once in every twenty-four hours between the dates of June 1 and October 15, inclusive, except in extenuating circumstances where breakdown or severe weather prohibits craft from carrying on their daily assignments.

The Commission made every effort to secure the cooperation of the bordering states of New York and Ohio and the Dominion of Canada. However, either they stated they could not make any regulations or, the law prohibited them from doing it.

In response to many letters of protest received from persons fishing out of the Port of Erie, the Commission agreed to rescind its former action and notify all fishermen that the regulations on nylon netting would no longer be in effect. However, the Commission is still of the opinion that the regulations as set up were for the best interests of the industry and as a whole would have contributed much to the future fishing of the Lake.

Lake in Southwestern Pennsylvania—The Commission agreed to continue its efforts to secure a lake site in southwestern Pennsylvania.

Meeting Held August 7, 1950

Reclassification—The Commission adopted a reclassification covering employees of the Commission to become effective August 15, 1950.

District Supervisors—Examinations are to be given for the position of six District Fish Warden Supervisors and all the men on the regular force will be given the opportunity to take the examination if they so desire.

New Warden for McKean County—Mr. Wilbur Williams, Mt. Jewett, was appointed as the regular officer for McKean County, succeeding John H. Toomey who resigned.

Bulletins—The Commission approved the publishing of booklets covering trout and bass waters and amphibians and reptiles of Pennsylvania.

(*Turn to page 20*)

Try Tying Hair Bugs

By Don Shiner

THE hair bug has contributed greatly to the many fishermen turning their attention to 'fly-fishing' for black bass, for it is an undisputed fact that surface lures in the form of small bugs are one of the most effective lures the angling fraternity can use for these game fish.

Probably you have used these bugs regularly on your fishing jaunts, marveled at the little lures, and wondered how they were made. They are so well trimmed and smooth, it is rather hard to believe they were made from deer hair and the tiny stubbles are the ends of the hair. Yet, this is the material that was used to make them, and used quite simply too.

Should you desire to try your hand at making a few of these bugs, (and you should by all means), undoubtedly the very first bug you make will amaze you in its appearance, may amaze you still farther by luring bronze-backs from hiding.

Making these bugs is truely a fascinating pastime, especially on evenings when there is little else to do. It requires only a minimum amount of tools and materials, namely, a fly-tying vise and a pair of scissors. For materials, all that you will need is an assortment of dyed deer hair and a spool of good strong thread.

Hair of the bighorn mountain sheep or white-tailed deer is ideal to use to make these lures, for the hair is hollow. Thus, when a small bunch of hair is placed parallel with the shank of the hook and a few turns of thread placed around it, when pressure is applied it will cause the ends of the hair to flare upward. Crushing the hollow centers causes this and unless the hair used is of this type, hair bugs can not be made.

In this manner, small bunches of hair is tied to the hook, the hollow centers crushed so that the hair flares outward, the entire body of the bug is formed. The bushy looking lure is then trimmed to the desired shape. This entire operation will not take more than a few minutes and in a short time you will be turning out bugs of first rate quality.

For a more detailed description of how these bugs are made, the first step is to insert a hook into the jaws of a vise. The hook held in this manner will allow you to work with both hands. Then, attach a piece of good strong thread to the hook near the bend.

The illustrations show a frog being constructed. A small bunch of green (dyed) deer hair is cut and placed horizontally or parallel with the shank. Make a few turns of thread around the hair and hook and pull the thread tight. Notice how the hair will stand erect.

Push this cluster of hair toward the rear of the hook. Then select another bunch of hair and tie on in the same manner. Alternate with one bunch of dyed green hair, then one of natural white. In this way various colored or striped effects are achieved. This gives the bug a true appearance of a frog, having a green back and a white belly.

Continue to tie on groups of hair until the hook is nearly filled to the eye. It may have the appearance of a 'brush heap,' however, this bushy resemblance will soon be transferred into a well shaped body.

Finish the bug by tying a whip knot at the eye of the hook. Make this knot by holding a tooth pick above the eye of the hook. Then wrap a number of turns of thread around the tooth pick and hook and insert the free end of the thread through the loops. Pull the thread tight. This knot is very important for if it is not made properly the lure will quickly unravel and come apart. For added security, coat the knot with lacquer or cement.

The last operation is to take the 'furred hook' from the vise and begin to trim the hair close to the hook, gradually shaping the body. At the bend of the hook select two clumps of hair on opposite sides and allow these to remain rather long to form the legs on the frog. If the bug is made to represent a moth or other winged insect, select a clump of hair on opposite sides of the hook near the eye and allow this to remain for the wings.

With the completion of the trimming, the hair bug is complete. Actually as can now be seen, it is not difficult to tie these bugs, but on the contrary is quite simple. You may vary the patterns and appearances of the lures simply by using different color hair. An ounce of hair dyed red, yellow, green, black, brown and natural white will tie many of these lures. Tie some to represent frogs, moths, bumble-bees as well as some that are pure

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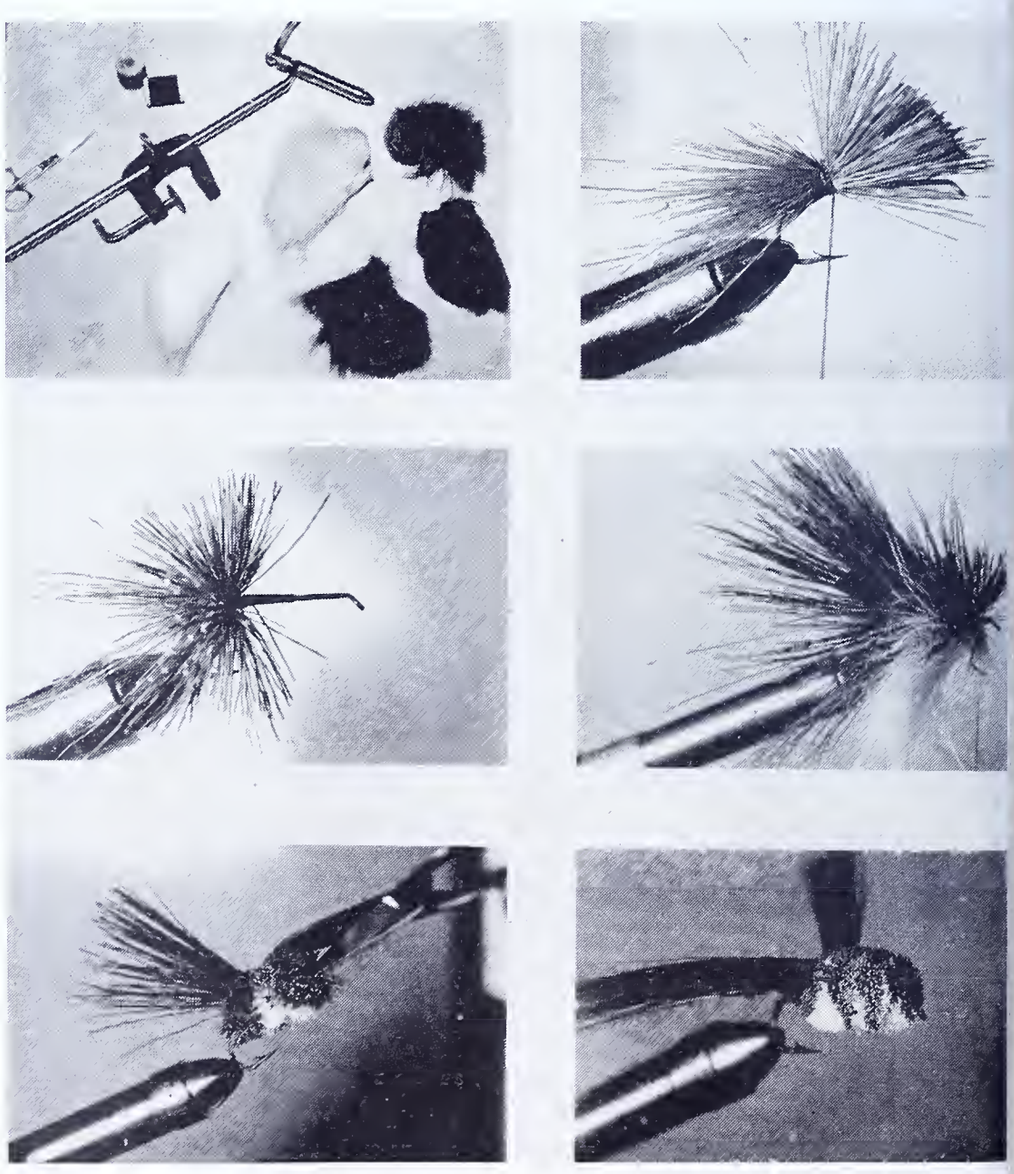

From tools and material needed, to the finished bass catcher.

Tackle Box Extras

By Keith C. Schuyler

ON RETURNING from a recent fishing trip, I rearranged my ackle box and untangled the mess that sually results from an extended trip hat includes much night fishing. The ccumulation of articles other than ures amazed even me.

However, when I had finished traightening out the box and putting ack in everything that I consider essential to a fishing trip, there was othing left outside. Experience has roven that everything that goes to ulge my tackle box is necessary to a uccessful angling expedition.

Countless writers dwell on this and hat favorite lure which they would ot be without at any time. I am included in this class. What we do not top to realize sometimes is that our avorite killer might be a dud in waters vhere some readers are located although there are certainly some artificial baits that are good in any water. But, if every fisherman carried every guaranteed lure, about which he has ead, he would be unable to carry all he tackle boxes necessary to contain hem.

Although any experienced fisherman enjoys reading about new lures and is willing to try anything once, he still employs his old favorites most of the ime. If one of the new ones pays off, t is included among those that he carries all the time. For, that is the way experienced fishermen become experienced.

We must all agree that certain lures are best for certain times and places, and it is not necessary to carry all of hem all of the time. However, there are certain items that can, and in my opinion should be, carried at all times and which are valuable to any fisherman anywhere. These are the tackle box extras that come in so handy so many times. None of them will insure a successful fishing trip, but any one of them can do much toward the continued success of such an excursion.

One of the most important is a small pocket knife, or clasp knife. Although many anglers carry a belt, or sheath knife, the small knife is much handier for repair work on fly rods. The little blades will often do a job that the larger sheath knife cannot accomplish well. In an emergency, the clasp knife will substitute as a screw driver, open oil cans, cut lines and leader and many other little jobs for which you usually carry more efficient equipment. If you carry a small clasp knife as standard tackle box equipment, you can forget to bring your belt knife and still not be handicapped too much in paring potatoes, cleaning fish and cutting tent pegs. I wouldn't be without one.

Another item which shares a place in the top of my box among the plugs and spoons is a small pair of scissors. They are especially handy in trimming knots and cutting line and leader. Too many times a fellow will slice his water softened fingers in an attempt to break a strong line or leader, and such a cut can become very irritating. The long points of the scissors are fine to make a close cut to the hook deep within the fish's mouth if one has swallowed the bait that you do not wish to keep. I sometimes use the scissors to mark the fins or tails of fish I return to the water in the hope of catching them another day. I have also used a standard paper punch for the same purpose.

A sheet of sandpaper or emery cloth comes high on my list of musts for the tackle box. Sharpening hooks and brightening them, working down sticky rod joints, rounding out the taper in a repaired bamboo end before attaching the joint ferrule—these are some of the many uses to which this handy extra can be put on a fishing trip.

Ferrule cement has but one major use, that of repairing ferrules. Nevertheless, it is worth its weight in gold when a rod breaks and you are in the midst of good fishing. The same goes generally for a spool of silk thread except that this is also useful in repairing old bass flies and fastening to the hook certain types of live bait.

Another strictly repair item which is fine to have along is rod varnish. It is necessary if you want a first class repair job on your fly rod. However, a good temporary substitute comes in the form of ordinary fingernail polish. Less bulky and hence easier to carry, the polish is equipped with a convenient little brush. The polish also works fine in touching up loose ends on your rod wrappings. And, if you find yourself without red-striped spoons when they are in order, the fingernail polish can dress up a plain spoon so even the manufacturer wouldn't know it. For that reason, it is well to choose a bright red. At best, the polish is only a temporary substitute, but it is a good one.

Extra reels, while not absolute essentials, give you a feeling of security when you are a long way from home and the nearest sporting goods store. Although most reels of current manufacture are trustworthy, none of them are fool proof. And, too, frequently we are tempted to hang on to the old standby when we know it might momentarily be due for a trip to the repair shop.

Along with extra reels, it is good to have an extra casting line. Coated or impregnated fly lines are usually much stronger than the leader used and are less apt to become frayed or weakened. If they do, their faults are much more obvious before you leave home. However, casting lines, since we always use greater lengths while fishing, sometimes develop weak spots well back on the reel. A big fish, or a deeply hidden stump, can take our line and the best part of a fishing trip with them. If you, too, like to use a light weight casting line so that you can handle the

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The Sea Lamprey in the Waters of Lake Erie

by

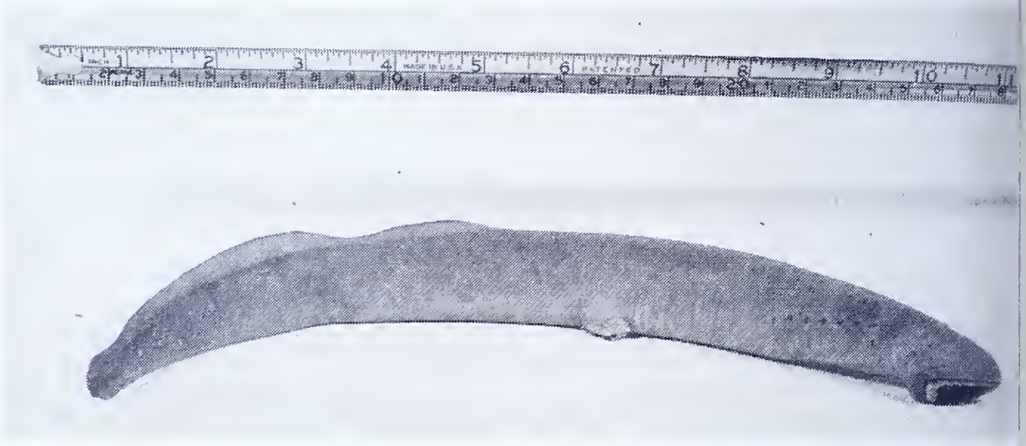
GORDON L. TREMBLEY, Chief Aquatic Biologist

EDWARD F. WESTLAKE, JR., Assistant Aquatic Biologist

Pennsylvania fishermen will be glad to learn that the sea lamprey (Petromyzon marinus), which is blamed for the startling reduction of lake trout numbers in the upper Great Lakes, does not appear at present to be a serious problem in Pennsylvania waters of Lake Erie. Unless attached to fish, lampreys are seldom seen by man except when sexually mature adults run up streams in the spring to spawn. Therefore most attempts to count or control this fish parasite have been carried on in streams.

Several methods were used in obtaining information on the status of the lamprey in Lake Erie. These studies, which were conducted in the spring of 1950, included (1) contacting commercial fishermen, (2) use of a lamprey weir, (3) hand collecting by walking tributaries, and (4) shore seining. The period of study was about one month during what was considered the height of the lamprey run. The study was made at the request of Honorable Charles A. French, Executive Director, Pennsylvania Fish Commission, who is a member of the Great Lakes Sea Lamprey Committee.

The commercial fishermen interviewed said they had seen no increase in lampreys or scar marks on their catches during the past 30 years. When shown a specimen of the sea lamprey, several claimed never having seen it before. In the single weir, located at the mouth of Crooked Creek near North Springfield, only two sea lampreys were taken although three others were taken by smelt fishermen just below the weir. Three additional sea lampreys were picked up by hand from other tributaries of Lake Erie. During shore seining operations in early spring, seven small sea lampreys were collected. Thus a total of only 15 sea lampreys was taken—eight



A silver lamprey. Dorsal fin is continuous. Note eggs are protruding where body wall ha been cut.

A sexually mature sea lamprey. Note that there are two dorsal fins with a space between.

The mouth or "business end" of a sea lamprey.

A mature brook lamprey (above) and a young sea lamprey (below). Note difference i distances between dorsal fins.

Lamprey weir used in a tributary of Lake Erie. Only two lampreys were caught in this weir.

sexually mature and seven young. This is only a trifling few when compared with the nearly 25,000 trapped in a weir in a single tributary of Lake Huron in 1949.

Two other species of lamprey were collected in the tributaries: the silver lamprey (Ichthyomyzon unicuspis) and the brook lamprey (Entosphenus lamottenii). The silver lamprey is reported by commercial fishermen as being more commonly seen in Lake Erie than the sea lamprey although we took only six. It is also a fish parasite but damage done by it does not seem important. The little brook lamprey spends its life in streams and is *not* parasitic on fishes at any stage. The accompanying photographs will aid in distinguishing among the three species.

Dr. Milton B. Trautman states in a recent paper that the Franz Theodore Stone Laboratory at Put-in-Bay, Ohio, has offered a prize of one dollar for each sea lamprey taken in Ohio waters of Lake Erie. Over a period of several years they have obtained only about one a year. It is his belief that the tributary streams of Lake Erie are generally less adapted to lamprey spawning and to the rearing of young than are the clear water trout streams entering the upper Great Lakes.

Sea lampreys seem to prefer trout as hosts—perhaps due to the ease with which they can penetrate the skin. However, in Lake Huron, where the lake trout population has become so reduced, the lamprey is beginning to attack other species such as bass, walleyes, perch, and whitefish.

Bad Streamside Conduct

We are happy to pass on to our readers a part of a letter received from William C. Callihan of Johnstown, Pa. Mr. Callihan poises the problem which the sportsmen's clubs and fishermen generally have been trying to solve for years. Streamside conduct and behavior is very important to the success of our outdoor recreation. Here is Mr. Callihan's report on the subject. "Something is going to have to be done about people leaving garbage, tin cans, etc. laying around and also throwing beer cans and bottles in the streams. I saw a couple of places lately that looked like somebody brought their tin cans along from home to get rid of them. Why don't fellows realize that while they are spoiling the fishing for others, they are also spoiling it for themselves. I certainly think something should be done about it." The ANGLER would like its readers opinions as to just what they think should be done.

Another Nursery Planned

The Western Clinton Sportsmen's Assn. has just completed another trout nursery with a capacity of about 10,000 trout. Another is nearing completion with at least that capacity, the club is aiming at a final or ultimate capacity of 100,000.

Blockhouse Creek---Anglers' Opportunity

In a sense of the word fishermen who use a 10-mile section of Blockhouse Creek are on probation. A group of landowners who have kept their properties posted against fishing for two years have been induced to open the stream again.

There are two benefits to be derived from the move. More miles of stream are added to fishing in Lycoming County and if the stream remains open, the prospects are bright for stocking the creek which has been unstocked for a number of years. That means more and better fishing.

But there is a big "if" in the picture. That if is based on the conduct of anglers who use the stream. Farmers closed sections of the creek several years ago when they decided they couldn't take any more of the damage done by the fishermen.

For instance, they found pasture gates left open by fishermen and dairy cattle roaming along the highways and away from the farmer's land. They discovered planted fields tracked over by cars carrying anglers to fishing holes along the stream. Such things were dollar and cents damage to farmers' means of a making of living. So NO FISHING and NO TRESPASSING signs went up. State stocking was stopped and the miles of fishing streams in this county were reduced.

Now, 21 property holders along Blockhouse Creek have been induced to reconsider. They have given their permission to Liberty Boy Scouts to remove the no trespass signs and erect in their places Mr. Fisherman signs. The latter emphasize the importance of right conduct, consideration and care on the part of fishermen when they use farmers' land during fishing excursions.

Organized sportsmen groups have urged their members to respect the property along fishing streams. Efforts have been made to promote the idea that anglers are guests of the farmers. There has been much talk about each fisherman establishing his own good relationship with the farmer.

All those things can go a long way toward opening up more streams to public fishing. If the Blockhouse Creek plan works out, we can see other NO FISHING signs coming down. A new understanding between fishermen and farmers can be visualized. That is one of the most important ways to add to the miles of fishing streams in Lycoming County and in Pennsylvania.

It is to be hoped that a few won't spoil it for the many. If they do, the Blockhouse Creek NO FISHING signs will probably go back up again.—Editorial, *Williamsport Gazette & Bulletin.*

Linda Bechtel, three-year-old daughter of Walter Bechtel of Bridgeport, Pennsylvania, proudly displays the 21-inch, 4 pound small mouth black bass caught by her father on August 19, 1949. This fine fish was taken from the Perkiomen Creek near Collegeville.

The Hellgramite or Dobson

By A. B. Champlain
Chief Entomologist—Pa. Dept. Agriculture

FISHERMEN know the value of the "hellgramite" or dobson in fishing for bass and others of the finny tribe, but their knowledge is usually limited to the stage of the insect most prized as bait.

Anglers whom I have known, especially around Harrisburg, Pennsylvania, on the Susquehanna River and tributaries, consider the larvae of hellgramites equal to any bait for black bass. In addition, they may be used with good results in catching numerous other game fish. They live and move about for a long time when on the hook, and for that reason were great favorites as bait for outlines before the latter were prohibited by law. One local fisherman tells me that his best all-round bait was hellgramite larvae, treated in the following manner—Cut off the head and run the hook in at the tail, drawing the body up over the hook with the inside out, the legs pulled up above the hook on the leader. Then free the barb of the hook on account of the tough skin, and in this condition there is exposed a tough but strong scented, attractive bait, that is often taken by fish when every other bait fails.

They are plentiful where they occur, and, as the insect lives nearly three years in the larval stage in the water, they may be found and collected at any season of the year. The best method of collecting the larvae is to wade into the stream against the current, with a net, turning over the stones in front and the hellgramites will float down the stream into the net. In the winter time the larvae curl up into a sort of ball when disturbed, and they are easily collected in this manner.

Fishermen desiring to keep hellgramite larvae at home for convenience, will have no trouble if the following directions are carried out: In a wooden box place a layer of gravel about one inch deep on the bottom. Put a few loose boards over the top of the gravel, thus making a place for them to hide. A lid on the box will prevent their escape. In the lid there should be a small hole in which to pour water, just enough to keep the gravel moist, the surplus running out at the crack. Do not place too many larvae in one small box, as they will attack and mutilate each other when too numerous. Keep in a cool place.

The adult or mature insect, often called fish-fly, hellgramite fly or dobson fly, is about two inches long, with a wing expanse of about five inches. The four, brownish wings are large and net-veined and are folded back over the body when at rest. It has a broad head, six legs, and prominent mandibles or jaws, while the antennae or feelers are many jointed.

The adults are active and crawl about or fly readily, usually at night and are attracted to arc-lights or any strong lights, especially those situated along or near streams. They are short lived and their main function is mating and egg laying. The female resembles the male in many respects, but the latter can easily be distinguished by the greater length of the mandibles.

After mating, the females, which are the longer lived, are ready to lay their eggs; these are laid in blotch-like masses, chalky-white in color at first, later a dirty-white, each mass about one inch in diameter and containing from one to three thousand eggs. These eggs are attached to the stone work or timbers on the under side of bridges, to stones or the trunks of trees overhanging a stream, so that when the eggs hatch the young hellgramites or larvae will easily find their way into the water, where the pass their entire early life. The larvae are carnivorous and feed upo the young or larvae of other aquat insects, readily crawling or swimmir about and making their homes beneat stones or among the vegetation at th bottoms of running streams, preferrir places where the water flows swiftes they breathe by means of gill tuf arranged along the under sides of th body.

When nearly three years old, th larvae have reached their full growtl and during the latter part of May, (early June, they leave the water night and migrate to the shore, whe they burrow into the soil, beneat sticks or stones, or in an old stum It is at this time that they may easi be collected, and usually in number

After entering the burrows or cell they change to the pupae or quiesce stage. The pupae are dirty-white color. They are too soft and wate to be especially prized as bait.

The hellgramite, in this stage, practically defenseless and for th reason utilizes a burrow or cell the ground. No food is taken this stage, but the energy stored u in the larval stage carries it throug this period, lasting about a mont when the adult or winged insec emerge from the cells.

The adults are used for bait, b the wings are usually pulled off firs

—*Forest and Strea*

(Photo by Evening Chronicle, Allentown)

A view of the Little Lehigh which winds through picturesque Lehigh Parkway at Allentown and a sectional illustration of the Seventeenth Annual Live Trout Contest held there on Sunday July 9. The affair was sponsored by the Lehigh County Fish and Game Protective Association who stocked the stream with their own trout raised at their own hatchery, the former Trexler Hatchery of Allentown. From all reports this trout-field day, was a grand success.

The Muskellunge

EDITED BY
Lou S. Caine

any colorful adjectives have been used to lescribe that giant member of the pike ily, the might muskellunge. It is said to be solitary, ferocious, mean, tough, vicious, vicious, sly, capricious, sulky and lone wfish, among others.

ll of these undoubtedly fit at one time or another, depending upon the mood in wch the fisherman finds the muskellunge. Sice every angler yearns to catch a fish of tkle-busting proportions, the muskellunge is prize package, indeed.

is our largest freshwater game fish, next to the lake trout, capable to staging a teific and spectacular battle—but, is not alays in the mood to do so. Catch it in or of those pugilistic stages and you will exerience the fishing thrill of your lifetime, pvided your fish has attained a respectable si

n addition to many spellings of the proper nne Muskellunge (such as Maskalonge, Mskalunge, Muscallonge, etc.) the common nsnames are Musky, Barred Muskellunge, Cautaqua Muskellunge, Great Lakes Muskllunge, Leopard Muskellunge, Tiger Muskllunge, Mississippi Muskellunge, Northern Mskellunge, Ohio Muskellunge, Spotted Mskellunge, Unspotted Muskellunge, Wiscsin Muskellunge, Ohio River Pike, Jack Pe, Longe, Lunge, Allegheny River Pike, Cautauqua Pike, Blue Pike and Great Pike.

n addition to the main species, *Esox nsquinongy,* there are two sub species, *Ex masquinongy ohiensis* and *Esox masqnongy immaculatus.* Here are the diffences:

Esox masquinongy: Often called Great Ikes or Spotted Muskellunge. Olivaceous o back, shading into gray on sides; at times hs a golden-olive sheen. Lower parts are svery and belly is white. From gill covers t tail and from slightly below lateral line, ihas dark spots and markings on body and fs. This species is native to the St. Iwrence River and Great Lakes basin, also fnd from New York and Vermont, west tough southern Canada to Michigan and Wsconsin.

Esox masquinongy ohiensis: This sub species is commonly called Ohio or Barred Muskellunge. Found in Lake Chautauqua, te Ohio River and tributaries, in northwstern Georgia and Tennessee to New York Sate and Pennsylvania. Coloring is bronze back, shading into light sides marked th dark spots or bands which extend to s.

Esox masquinongy immaculatus: Frequently called Mississippi or Northern Muskellunge; found in lakes and streams of Wisconsin and Minnesota, and the waters of Canada tributary to Hudson Bay. Although marking of this fish vary according to location, general color is bluish-gray cast with ive tinge, with indistinct dark bands usually stinguishable.

The muskellunge prefers sheltered spots ound logs, weed beds and deep holes where can hide until a likely victim comes within ach. Occasionally it is found in small eeks, but usually in larger rivers or lakes. All three muskellunge can be distinguished quite easily from the other two members of the pike family, the northern pike and the pickerels by the squamation, or scaling, on the cheeks and gill covers.

On the muskellunge, only the upper halves of the cheek and gill cover are scaled; on the northern pike the cheek is entirely scaled but only the upper half of the gill cover; the pickerels have scales entirely covering both the cheek and the gill cover.

The world record is a 69-pound, 11-ounce giant taken on rod and reel in Chippewa Flowage, near Hayward, Wis., by Louis Spray, October 20, 1949.

Although the Wisconsin Fish and Game Commission reported a muskellunge over 75 pounds being caught in Minocqua Lake, in 1906, the average size of those caught by sportsmen will run from 15 to 25 pounds.

Natural Foods consist of: Minnows, suckers and any small fish including its own species; also frogs, snakes, mice, squirrels and the young of muskrats and ducks.

Among the more successful lures are the large surface lures like the Giant Flaptail and Crazy Crawler and underwater plugs like the River Runt, Giant Vamp and Vamp Spook, spoons like the Queen or King, bucktail combinations and large live minnows; also fly lures such as the Wilder Dilgs, Bass Bug Spooks and fly-spinner combinations.

Underwater lures like the Vamp Spook, Giant Vamp and River Runt are outstanding for casting or trolling; and in weedy spots, spoons like the Queen or King will work best.

Trollers use much the same tackle as that used for casting. Some prefer a straight handle "Pal" rod with a large single action reel like the Winona which gives them much greater line capacity.

Fly casters use heavier rods like the Power Plus, a powerful, tempered split-bamboo rod, 9 feet in length with No. 2¾ ferrule. With this is used an automatic or single action reel like the Imperial with a D level line or HCH tapered, and backing, if desired. Wire leaders are recommended when fishing for muskies because of their numerous sharp teeth.

Still-fishermen use most any kind of tackle just so it is heavy enough. The best live bait seems to be a large sucker, and the musky should be given ample time to swallow the sucker before the hook is set.

Musky fishing is a fascinating sport and although the man hours per fish may be much greater than on other species, the time spent will be repaid with thrilling, rugged battles.—*Heddon Fish Flash*

FBI Indirectly Lauds BFI

William E. Merritt, Better Fishing Chairman of Mount Airy, N. C., has been taking the underprivileged children of his area on weekly fishing trips. These angling outings have worked so well in curbing juvenile delinquency that the FBI, in its June Law Enforcement Bulletin, gave Merritt, Mount Airy Police Chief, Monte Boone, and James Shaw of the Juvenile Court, a pat on the back for their work.

Because some of the underprivileged children of Mount Airy were becoming delinquent, the Police Department and Juvenile Court were looking for some constructive outlet for the "juvenile stream." The Better Fishing Program was a natural and Mount Airy wasted no time setting up a schedule. Since the establishment of fishing events, James Shaw of the Juvenile Court reported that there has not been a single case of juvenile delinquency reported in the city.

Chief of Police, Monte Boone, seconded Shaw's statement and added, "The program has been of inestimable value in its contribution to the curbing of delinquency and has established good relations between the police and the children."

"Fishing is Great" Anglers Report

Seasoned anglers who come from all over the nation to try their angling skill in the waters of the Susquehanna and its local tributaries report that fishing is the best it has been in years. The fact that the State Fish Commission has again stocked the streams and the weather conditions have been just right is attributed to the overwhelming success of most of the anglers in bringing in their limit. Of course not to be overlooked is the individual skill on the part of each sportsman in obtaining their catch.

The word of the good fishing has spread fast and furiously since bass season opened so successfully on July 1. Hotels, tourist homes, cottages have been filled and trailers, tents and cars line the banks of the river with eager fishermen pulling big ones in regularly.

Al White of Sugar Run has kept a chart this year showing the big catches of the season in that vicinity and the report is as follows:

Donald Clark, Dallas, Pa., 21-inch black bass, weight 4¼ lbs.; Carl Cechman, Watsontown, Pa., 18¾-inch black bass, weight 3½; lbs.; Theron D. Conrad, Sunbury, 20-inch black bass, weight 4 lbs.; Dick Eves, Bloomsburg, Pa., 25-inch walleye pike, weight 4 lbs., 10 oz.; James Stair, Bloomsburg, 23½-inch walleyed pike, weight 4 lbs.; Harry Keeney, Wyalusing, 20-inch black bass, weight 3 lbs., and 18½-inch black bass, weight 3 lbs. All of the above fish were snagged near Sugar Run.

Romeyne Sterling reports that DeWitt Wheeland of Sunbury, Pa., brought in a 21-inch black bass near the Sterling home in Homets Ferry recently.

Wesley Wheeler of Wyalusing also caught two 18-inch black bass fishing at the mouth of the Wyalusing Creek near the Susquehanna.

The biggest catch reported was made by Albert DeLong of Milton, Pa., who fought for a long time with a 36-inch, 24 lb. carp and landed it with the help of two other men. He was using a 3-lb. test fly leader.

Wood Norconk, Wyalusing mail carrier, also is among the big fish catchers of the season having landed a 29½-inch walleyed pike.—*Wyalusing Rocket.*

PENNSYLVANIA REPTILES & AMPHIBIAN

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 18 . . . Turtles

CENTRAL PAINTED TURTLE (Chrysemys picta marginata) . . . Maximum carapace length 7 1/3 inches; this is the common painted turtle of Western Pennsylvania; has a large, dark blotch on its plastron (bottom shell) which serves to distinguish it from the Eastern Painted Turtle; commonly seen basking on logs in ponds and lakes; 4 to 10 eggs laid in sand or soil in June or July; eats more plant than animal matter; recorded from 12 counties in Ohio and Erie drainage.

EASTERN PAINTED TURTLE (Chrysemys picta picta) . . . Maxim length 7⅛ inches; like Central Painted Turtle, has yellow stripes head and throat; red markings about the edge of carapace; East has uniform yellowish carapace; longest claws on forelimbs of m painted turtles are two or three times as long as claws on hind-lim has been collected in 10 counties of the Delaware drainage; pain turtles from 13 counties in Susquehanna drainage are considered mi Eastern and Central stock.

MAP TURTLE (Graptemys geographica) . . . Maximum length 10¾ inches; aquatic turtle with carapace (upper shell) covered with network of fine yellow lines which resemble lines on a map; a deep-water turtle that is particularly hard to catch; feeds upon fish, crayfish, insects, snails and carrion; lays 10 to 16 elliptical eggs in June or July in sand or soil; eggs may not hatch until following spring; recorded from 9 counties in the Erie, Ohio and Susquehanna drainage.

RED-BELLIED TURTLE (Pseudemys rubriventris rubriventris) . Maximum length 18 inches (female), males reach only 12 inches shy species inhabiting deep water; is one of rarest of Pennsylva turtles in Museum collections; carapace high-domed, colored olive brown marked with red; plastron red or dark orange; like snapper a wood turtle, this species is of commercial value as human food; been recorded only from Bucks, Lancaster and Philadelphia count in Pennsylvania.

SPINELESS SOFT-SHELLED TURTLE (Amyda mutica) . . . Maximum length 14 inches; only two records exist for Pennsylvania; one was collected in the Allegheny River at Foxburg, Clarion County, prior to 1888; the other, is a specimen reported taken from the Ohio River near Pittsburgh in 1899; it is as savage as its commoner relative, the Spiny Soft-shelled Turtle; unlike that species, the Spineless lacks the row of conical spines along the front edge of the flabby carapace. Photo courtesy A. H. Wright.

SPINY SOFT-SHELLED TURTLE (Amyda spinifera spinifera) . Maximum length 15 inches; completely aquatic; may be recogniz readily by its leathery, spiny-edged carapace; general flat appearar and pointed head also make it easy to distinguish; very active a agile both in and out of water; bites savagely and effectively; like t snapping turtle, it lays spherical hard-shelled eggs; sold as food some markets; found in 10 counties in Ohio and Lake Erie drainage on

OUR NORTHERN PIKE

By DON BLAIR

Whence came the Great Northern ike we have been catching with in-easing frequency in northwest Penn-lvania? Ten years ago we neither aw nor caught Esox Lucius in the llegheny River or in French Creek variously called Frenchmen's Creek r Le Boeuf's River). Nor did we atch these fish in the lower reaches f Big Sandy Creek in Venango ounty at that time.

In the summer of 1938, while pros-ecting a swampy stretch of Big Sandy reek above Raymilton, I was caught n a sudden and drenching thunder-torm. I remember vividly being quipped with a light seven and a half ot fly rod and some bass size treamer flies. After the storm I en-ountered the pike. It was a thrilling xperience. Here was a fish I had ever before caught. And it was fast nd furious action in the two hours etween storm and nightfall.

Those fish were not exceptionally arge, though somewhat longer than he smallmouth bass ordinarily pres-nt in such waters. They ran between 8 and 20 inches long. There seemed to e an endless supply of them. And hough I could not positively identify hem, I did not let that fact spoil my un. The fish struck with a savage illing fury and jumped like torment-d demons.

I soon learned they did not fight ike smallmouth bass or brook trout, vith an all out effort, but would in-ersperse bursts of energy with long auses of inaction. And that, though ou could lead them almost at will vith the light fly rod you never could nticipate the instant the frenzy might e resumed.

Another thing I learned, and uickly, was that beside having tooth and jaw structure almost exactly ike the muskelunge, these fish had several assorted razor blades built into their gill covers. And these ould cut your hand sharply as you struggled to hold the fish in order to get the hook away from his mouth.

I emerged from the evening's ex-citement with both hands cut and bleeding, and at the same time tre-mendously excited over catching this, to me at least, new and savage fish.

A few days later Game Commis-sioner Lamberton went with me to the creek. He, having had consider-able experience as a Canadian fisher-man, was able to identify the fish as Great Northern Pike, and also to point out the low opinion many people had of the species.

Low opinion of others or not, I knew I had had fast and furious action with these slim and vicious fishes, and I kept hunting and fishing for them. I finally caught one longer than the 22 inch size limit (at that time) and cooked and ate it. The flavor was almost exactly as local muskelunge and we liked it. Some don't.

As the years passed the fish became more and more numerous. We caught more and larger specimens, and we began to catch them in The Allegheny and in French Creek. They have multiplied enormously in the last dozen years, and so, I can assure you, has the angling fraternity multiplied in pursuit.

Shortly after Commissioner Lamberton identified the pike I showed one to my grandfather, who had done his boyhood fishing along South Sandy Creek in what is now Game Lands No. 39. He said he had speared such fish as a boy, and they had called them 'grass pike'. And the reason, he thought, the name had stuck in his memory was because there wasn't any grass growing in South Sandy Creek when he was a boy in the 1870's. It had then been 60 or 65 years since he had seen such a fish. If he was correct, and the fish were the same, then it would appear these fish have always been native to these parts. This seemed entirely possible, since Esox Lucius is one of the world's most widely distributed fishes, according to the encyclopedia.

Not long ago, however, Warden 'Rosey' White, well known to most western Pennsylvania sportsmen, unearthed some scraps of evidence to the effect that these fish were introduced, as fry or fingerlings, into the upper reaches of Big Sandy Creek, near the town of Sandy Lake, in the early years of this century. The story goes that the young fish were brought in by rail, and stocked by members of a now defunct sportsmen's club of that city.

Warden White was engrossed with the same question that was in my mind; Why, if these fish have always been native to Big Sandy Creek, or were stocked there nearly fifty year ago, did they lie dormant for so many years and then all at once begin to grow and multiply and expand their territory? The answer to that question, I think, lies in a little noticed change that has taken place in these waters, plus a habit of the Great Northern Pike themselves.

In the early days, grist mills and water power were the common thing throughout Pennsylvania. Big Sandy Creek was well supplied with mill dams at Pecan, Polk, Raymilton, Reed's Furnace and Sandy Lake. French Creek had a substantial dam at its very mouth in Franklin. I believe these dams prevented the free migration of many fishes, and that

(*Turn to page* 19)

Ed Hubuz, of Sharpsville and the 26½ inch, 8½ pound brown trout which he caught in Spring Creek, Forest County during the past trout season. This is an exceptionally fine trout from that area.

PENNSYLVANIA FISH LAW VIOLATIONS

CASES SETTLED DURING THE MONTH OF JULY 1950

Adams County

Bailey, Floyd J., South Mt. Sanitarium, Mt. Alto, Pa. Fishing in posted waters $ 25.00
Doss, Thomas, R. D. 1, Littlestown, Pa. Fishing without a license 25.00
French, Alvin, R. D. 1, Littlestown, Pa. Lending a fishing license 25.00
Hamm, Kenneth, Hanover Shoe Farms, Hanover, Pa. One bass out of season 10.00
Slagle, Francis J., 327 Lincoln Way West, New Oxford, Pa. Rods not under immediate control 20.00
Staley, Paul, R. D. No. 2, Gettysburg, Pa. Exceeding creel limit 10.00

Allegheny County

Baron, Walton, 1308 Harvard Ave., Natrona Hgts., Pa. One undersized bass 10.00
Bell, J. A., 321 Boggstown Ave., Pittsburgh 10, Pa. Exceeding creel limit 20.00
Bible, Bernard E., Slefords Apts., Glendale Ext., Carnegie, Pa. One frog in closed season 10.00
Braun, Walter E., Plumb St., Elizabeth, Pa. Rods not under immediate control 20.00
Call, Earl C., 145 Loyal Way, Pittsburgh 10, Pa. Rods not under immediate control 20.00
Chula, Lucy D., 323 Monongahela Ave., Glassport, Pa. Fishing without a license 25.00
Cobb, Harold, 2089 S. Court, Pittsburgh 5, Pa. Fishing without a license 25.00
Corry, Thomas, 5330 Dresden Way, Pittsburgh, Pa. One undersized bass 10.00
Drango, Joseph R., 406 Oak St., Terrace, Homestead, Pa. Operating a motor boat without a license 10.00
Fabinno, Mary R., 2546 Braddock Ave., Swissvale, Pa. Fishing without a license 25.00
Ferraro, Bernard J., 6727 Rowan Ave., Pittsburgh, Pa. Fishing without a license 25.00
Fuze, Theresa J., 44B Potomac Drive, McKees Rocks, Pa. Fishing without a license 25.00
Glatz, Edward J., 119 Wilble Run Rd., Millvale, Pa. One frog in closed season 10.00
Glose, James, 538 N. 5th St., Allentown, Pa. Four undersized pickerel 40.00
Graham, Joe W., 2009 Carson St., Pittsburgh, Pa. Rods not under immediate control 20.00
Green, Ralph D., 321 Boggstown Ave., Pittsburgh, 10, Pa. Exceeding creel limit 20.00
Hartman, Charles B., Second St., Elizabeth, Pa. Rods not under immediate control 20.00
Hoffman, George T., 133 Arla Drive, Pittsburgh 20, Pa. Operating a motor boat without a license 10.00
Hopkins, R. C., 3141 Churchview Ave., Pittsburgh 27, Pa. Operating a motor boat without a license 10.00
Hudak, Edward A., 1267 Hodgkiss St., Pittsburgh 12, Pa. Fishing without a license 25.00
James, S. W., 323 N. Ralph St., Bellevue, Pa. Operating motor boat without a license 10.00
Kulikowski, Henry P., 5315 Camelia St., Pittsburgh 1, Pa. Fishing in Slippery Rock Creek without a license 25.00
Lander, James, 324 Allen St., Pittsburgh 10, Pa. Fishing without a license 25.00
Large, John Sr., R. D. No. 3, Elizabeth, Pa. Fishing without a license 25.00
Lesniak, Clement, 5205 Carnegie Ave., Pittsburgh, Pa. One undersized bass .. 10.00
Lynch, John, 5015 Jordan Way, Pittsburgh, Pa. Fishing without a license 25.00
Mellin, Gilbert W., 107 Washington Ave., Oakmont, Pa. Operating motor boat without a license 10.00
Moran, G. A., 2006 Carey Way, Pittsburgh, Pa. Rods not under immediate control 20.00
Mueller, Walter, 6505 Rowan St., Pittsburgh, Pa. Operating motor boat without a license 10.00
Nestor, Leslie A., 19 S. 6th St., Duquesne, Pa Fishing without a license 25.00
Nettrour, Charles E., 52 N. Harrison Ave., Bellevue, Pittsburgh, Pa. Operating motor boat without a license 25.00
Ofchinick, William, 713 Hickory St., N. Braddock, Pa. Violation of the Rules and Regulations on Youngwoman's Creek 20.00
Pickl, Herman J., 218 Sample St., Millvale, Pa. Illegal device 20.00
Poslusney, Joseph M., 349 44th St., Pittsburgh, Pa. Illegal operation of motor boat 10.00
Rilke, Michael Jr., 5142 Natrona Way, Pittsburgh, Pa. One undersized bass 10.00
Rizzo, Gilbert J., 722 Naylor St., Greenfield, Pa. Operating motor boat without a license 10.00
Savcikis, Anthony W., R. D. 1, Oakdale, Pa. Operating motor boat without a license 10.00
Scallse, Frank, 741 Saline St., Pittsburgh, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Serniak, John, 517 Dewey Ave., Bridgeville, Pa. Exceeding creel limit 10.00
Sinn, Charles E., Kilbuck Rd., Glenfield, Pa. Fishing in Idlewild Hatchery 100.00
Stewart, Richard J., 1st Ave., Tarentum, Pa. Violation of the Rules and Regulations of the Pennsylvania Fish Commission 20.00
Tarasi, Louis, 719 Allegheny River Blvd., Verona, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Trusz, Michael St., 1208 Muriel St., Pittsburgh, Pa. Fishing without a license 25.00
Ursetta, Joseph J., 3722 Orpwood St., Pittsburgh, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Wiggins, Dean K., 400 Biddle Ave., Pittsburgh, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 25.00
Williamson, James D., 9513 Frankstown Rd., Pittsburgh, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Yeager, Richard L., 305 Mill St., N. Braddock, Pa. One undersized bass 10.00
Young, Alfred L., Indianola, Pa. Operating motor boat without a license 10.00

Armstrong County

Johns, Andrew, R. D. No. 1, Adrian, Pa. One pike in closed season 10.00
Chestnut, Samuel, R. D. No. 2, New Bethlehem, Pa. One bass in closed season 10.00
Groves, W. Edgar, 146 Wallace Ave., Leechburg, Pa. Operating a motor boat without a license 10.00
Hilty, Eugene, 419 S. Penna. Ave., Apollo, Pa. Fishing without a license 25.00
Johns, Ralph, R.D. No. 1, Cowansville, Pa. One pike in closed season 10.00
McClelland, Ross L., Dayton, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Mechling, Leonard T., R. D. No. 5, Kittanning, Pa. Operating motor boat without a license 5.00
Panciera, Wade, Seminole, Pa. Fishing in posted waters 25.00
Wolfe, Lester, R. D. No. 1, Adrian, Pa. One bass in closed season 10.00

Beaver County

Channel, Everett A., 618 Sixth St., Beaver Falls, Pa. One undersized bass 10.00
McAllister, Mrs. George, South Heights, Pa. Fishing without a license 25.00
Rossa, William, 234 11th St., Beaver Falls, Pa. Operating motor boat without a license 10.00

Bedford County

Ruby, Mrs. Belva, R. F. D. No. 1, Artemas, Pa. Fishing without a license 25.00
Walter, Virtus D., Imler, Pa. One undersized bass 10.00
Weyant, Donald L., Sunnyside Rd., Bedford, Pa. Fishing without a license .. 25.00

Berks County

Becker, Edward L., 635 Carsonia Ave., Pennside, Reading, Pa. Illegal device 20.00
Close, John N., 39 Carroll St., Reading, Pa. Two undersized trout 20.00
Dudash, John, 425 N. 10th St., Reading, Pa. Illegal device 20.00
Fenstermacker, Mrs. Minnie M., 1109 N. 13th St., Reading, Pa. Rods not under immediate control 20.00
Reinoehl, Henry C., 319 Fuston Ave., Reading, Pa. Two undersized bass 20.00
Schlessman, Arthur, 546 S. 11th St., Reading, Pa. Interference with officer 100.00
Schlessman, Clarence, 546 S. 11th St., Reading, Pa. Borrowing a fishing license 25.00
Shomo, Allen J., 1316 N. 10th St., Reading, Pa. Rods not under immediate control 20.00
Stoudt, Richard W., 309 2nd St., Shillington, Pa. Borrowing a fishing license 25.00
White, Robert B., 926 N. Front St., Reading, Pa. Operating motor boat without a license 10.00

Blair County

Ashcroft, Harry H., Altoona, Pa. Resisting an officer 100.00
Fleck, Merle I., 215 1st Ave., Altoona, Pa. Operating motor boat without a license 5.00
Hewitt, Andrew, Altoona, Pa. Operating motor boat without a license 5.00
Hubert, Gerald R., 1453 Clay Ave., Tyrone, Pa. Exceeding creel limit 30.00
Hubert William L., 1453 Clay Ave., Tyrone, Pa. Rods not under immediate control 20.00
Hubert, William L., 1453 Clay Ave., Tyrone, Pa. Exceeding creel limit 50.00
McElwee, Mrs. Josephine, 310 Hudson Ave., Altoona, Pa. Two bass in closed season 20.00
Montgomery, Thomas G., R. F. D. No. 1, Duncansville, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
O'Shell, William R., 230 Chestnut Ave., Altoona, Pa. Lending a fishing license 25.00
Risconsin, John, 1461½ Washington Ave., Altoona, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Scheafer, Richard H., 304 Pleasant Valley Blvd., Altoona, Pa. Operating a motor boat without a license 10.00
Tromm, Charles A., 319 Walton Ave., Altoona, Pa. Rods not under immediate control 20.00
Zimmerer, Alfred C., 1457 Washington Ave., Altoona, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Electric Fence May Be Answer To Lamprey

The slimy, unattractive sea lamprey, which spends its life gnawing holes in fish, has practically conquered the Great Lakes. Since the first invasion of lampreys by way of the Welland Canal (*Time*, June 16, 1947), they have almost wiped out the lake trout and are now going after the whitefish. The loss in trout alone, according to the U. S. Fish & Wildlife Service, is costing fishermen some $3,200,000 a year, and the lampreys have only begun.

Recently came the first good news for fishermen, the first bad news for lampreys. The Cook Electrical Co. of Chicago announced that it had developed for the Government a lamprey-killing electric fence which works fine on laboratory lampreys and shows promise of killing them in the wild.

The approved way to attack a pest is to study its life cycle in hope of finding a weak spot. Observers noted that the lamprey, an eel-like creature about two feet long, reaches maturity in the lakes and then migrates up the rivers to spawn. The young are fragile larvae that spend three years burrowing in the river mud. Then they develop into "neophytes" and start down the rivers to their hunting grounds in the Lakes.

Starting too soon may be a mistake that will cost the lampreys their conquest of the Great Lakes. In April, when the young lampreys are on the move, the water is still so cold that no baby fish are abroad. The observant Cook Co. designed an electrified fence to throw across the rivers. Neophyte lampreys passing between its meshes are electrocuted. If the fence is taken away before the water gets warm, baby fish are unharmed.

Killing the neophytes headed for the Lakes might eventually wipe out the lampreys, but Cook is also trying to figure out a way of dealing with adult lampreys headed upstream to spawn. The trouble is, lampreys move upstream at the same time as valuable spawning fish. The Cook people are looking for something that will annoy and delay lampreys. If the lampreys could be made to hang back, they could be safely electrocuted after the fish had passed by.

Zimmerer, Herman M., 3132 Oak Ave., Altoona, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Bradford County

Camp, Rev. Russell R., Canton, Pa. Operating motor boat without a license 10.00

Fish, William H. Jr., 234 Center St., Athens, Pa. Operating motor boat without a license 10.00

Johnson, Charles, R. D. No. 6, Towanda, Pa. Selling five heligrammites 50.00

Smith, D. Thomas, R. D. No. 1, Rome, Pa. One undersized brook trout 10.00

Smith, Harold, R. D. No. 1, Canton, Pa. Operating motor boat without a license 10.00

Vanderpool, Walter, R. D. No. 6, Towanda, Pa. Exceeding creel limit 50.00

Bucks County

Hagg, Edward, 1955 Dixon Ave., Croydon, Pa. One undersized bass 10.00

Hoke, Richard, 821 W. Broad St., Quakertown, Pa. Fishing in a closed stream .. 25.00

Lawrence, Mae, 114 Crescent St., Pendell, Pa. Fishing without a license 25.00

Neumann, Wencel A., 1009 Evergreen Rd., Morrisville, Pa. Operating a motor boat without a license 10.00

Butler County

Allen, Edgar D., 219 S. Jackson St., Evans City, Pa. One undersized trout 10.00

Homan, Richard, Harrisville, Pa. Fishing in a closed stream 25.00

Snider, Laird, 140 N. Washington St., Evans City, Pa. One undersized trout 10.00

Cambria County

Cooke, Robert, Vintondale, Pa. Feeding fish from bridge 20.00

Cornelius, Ray N., R. D. No. 5, Johnstown, Pa. Illegal operation of motor boat 10.00

Cox, Nelson H., 406 Pershing St., Gallitzin, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Dixon, David A., Glasgow, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Groth, John, 410 McIntyre Ave., Patton, Pa. Fishing a posted stream 25.00

Lenna, Michael A., Flinton, Pa. Fishing a posted stream 25.00

Rickey, Fred W., 442 Dorothy Ave., Johnstown, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Rita, John, 172 Iron St., Johnstown, Pa. Fishing without a license 25.00

Saga, Julius, Winbur, Pa. Illegal device 20.00

Stiker, William, R. F. D. No. 1, Johnstown, Pa. Fishing without a license 25.00

Weaver, Harold D., Sidman, Pa. One bass in closed season 10.00

Wited, W. Ray, Barnesboro, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Carbon County

Ahur, Stanley, Beaver Meadows, Pa. Fishing in a closed stream 25.00

Czeski, Martin, 609 E. Abbott St., Lansford, Pa. Interfering with an officer 100.00

Eiser, Harry H., 225 E. White St., Summit Hill, Pa. Fishing in a closed stream 25.00

Pruska, George, Beaver Meadows, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 25.00

Soka, Peter, 627 E. Bertch St., Lansford, Pa. Refused to show a license 25.00

Centre County

Cifer, Richard, Howard, Pa. One undersized trout 10.00

Fanik, John M., 306 10th St., Phillipsburg, Pa. One undersized bass 10.00

McGirk, John D., 17 N. Front St., Phillipsburg, Pa. Violations of the Rules and Regulations of the Pa. Fish Commission 20.00

Naie, David, Moshannon, Pa. Thirteen undersized trout 130.00

Naie, David, Moshannon, Pa. Exceeding creel limit 10.00

Chester County

S. John, Senia, 130 Pikeland Ave., Spring City, Pa. Illegal device 20.00

Frohl, Leroy S. Jr., Brandamore, Pa. Operating motor boat without a license 10.00

Clarion County

Patrick, V. Roy, New Bethlehem, Pa. Operating motor boat without a license 10.00

Sanders, George, Main St., Clarion, Pa. Operating motor boat without displaying license plates 5.00

Clearfield County

Beck, Perry, R. D., Woodland, Pa. Fishing in posted stream 25.00

Buck, Robert, R. D., Woodland, Pa. Fishing in posted stream 25.00

Conaway, Ben, Kaethaus, Pa. One undersized bass 10.00

Fieck, Norman, Winburne, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Nickerson, Joseph L., 136 W. Long Ave., DuBois, Pa. Fishing in posted stream 25.00

Stewart, M. A., 101 S. Jared St., DuBois, Pa. Operating motor boat without a license 10.00

Thomas, Herbert, 1304 Turnpike Ave., Clearfield, Pa. Exceeding creel limit .. 90.00

Clinton County

Ammerman, Frank, 895 E. Baldeagle St., Lock Haven, Pa. Fishing in a posted stream 25.00

Floruss, Harry D., 659 Wood Ave., Flemington, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Floruss, Harry D., 659 Wood Ave., Flemington, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 50.00

Morton, Harold, 939 Bellefonte Ave., Lock Haven, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 40.00

Hunt, Irvin W., 210 E. Water St., Lock Haven, Pa. Fishing in a posted stream 25.00

Jones, Gene A., 111 Mill St., Lock Haven, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Stover, Paul, 110 Washington St., Lock Haven, Pa. Illegal device 20.00

Zlaus, John A., Star Route, Renovo, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Columbia County

Waters, Henry E., 208 Orchard St., Berwick, Pa. Fishing without a license 25.00

Crawford County

Allen, Robert K., 1151C Cozy St., Meadville, Pa. Operating motor boat without displaying license plates 10.00

Baker, Roy, Box 177, Harmonsburg, Pa. Unlawful removal of fish from commercial nets 50.00

Bradley, Lawrence W., R. D. No. 2, Conneaut Lake, Pa. Operating motor boat without displaying license plates 10.00

Cooper, Boyd, 698 State St., Meadville, Pa. Fishing without a license 25.00

Davis, Charles A., R. D. No. 3, Titusville, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

Gigone, Howard A., 226 E. Mt. Vernon St., Titusville, Pa. Fishing without a license 25.00

Kapanik, John Jr., R. D. No. 2, Meadville, Pa. Unlawful removal of fish from commercial nets 50.00

Post, Samuel, R. D. No. 2, Hartstown, Pa. One frog in closed season 10.00

Post, Samuel, R. D. No. 2, Hartstown, Pa. Resisting arrest 100.00

Rutter, William, Conneaut Lake Park, Pa. Operating motor boat without displaying license plates 10.00

Cumberland County

Handshew, Clarence, R. D. No. 2, Carlisle, Pa. Three bass in closed season 30.00

Medintz, Michael, 222 E. Main St., Mechanicsburg, Pa. Operating motor boat without displaying license plates 10.00

Rearick, George D., 17 Big Spring Ave., Newville, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Thornton, Richard, R. D. No. 3, Mechanicsburg, Pa. Fishing in a closed stream 25.00

Ugiow, Albert, 343 Fort St., Shippensburg, Pa. One frog on Sunday 10.00

Wagner, Park L., Allen, Pa. Fishing in a closed stream 25.00

Dauphin County

Beil, David Jr., 1635 Paxtang St., Harrisburg, Pa. Illegal device 20.00

Dehrdorff, Leon, 1122 S. Cameron St., Harrisburg, Pa. Illegal device 20.00

Garner, Ellie S., 1932 State St., Harrisburg, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Garner, Ira W., 1933 State St., Harrisburg, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Kohler, Walker, Harrisburg, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Landis, Roscoe N., 423 Muench St., Harrisburg, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

Lilley, Max E., 635 Woodbine St., Harrisburg, Pa. One bass in closed season .. 10.00

Peline, E. A., 3101 Butler, St., Penbrook, Pa. Illegal device 20.00

Delaware County

Deigrego, Paul J., 101 E. Township Line, Kirklyn, Pa. Exceeding creel limit .. 20.00

Dunn, John J., 718 Kerlin St., Chester, Pa. Exceeding creel limit 20.00

Francisco, Katherine, 707 Potter St., Chester, Pa. Fishing without a license 25.00

Hartman, B. W., Box 43, Drexel Hill, Pa. Exceeding creel limit 20.00

Haynes, Elton H., 28 S. Orange St., Apt. 1, Media, Pa. Fishing without a license 25.00

Morrison, Alfred W., Bethel Rd., R. D. No. 1, Chester, Pa. Fishing without a license 25.00

Schab, Joseph, 604 Maddoc St., Crum Lynne, Pa. Exceeding creel limit 20.00

Elk County

Meyers, Theodore M., 421 W. Mill St., St. Marys, Pa. One frog in closed season 10.00

Erie County

Burt, Harold C., 118 Meadville St., Edinboro, Pa. Operating motor boat without a license 10.00

Carpenter, James, 754 E. 14th St., Erie, Pa. One undersized bass and violation of the rules and regulations of the Pa. Fish Commission 20.00

Cross, F. R., 921 W. 31st St., Erie, Pa. One undersized trout 10.00

Ester, George H., R. F. D. No. 1, Waterford, Pa. One undersized bass 10.00

Leininger, Harold G., 8 W. Main St., Fairview, Pa. Failure to display license plates on motor boat 5.00

Liebert, Frank, 1824 Wayne St., Erie, Pa. Fishing without a license 25.00

What's the Matter With the Fishing?

By Bill Walsh

Every year as we enter into the summer doldrums we hear complaints about the fishing. What's the matter—we know the fish are there, why don't they bite? The answers are many and varied and the real answer is probably a combination of all of these. There are some things, however, which the angler should remember about mid-summer fishing which might improve his luck.

In the first place, the game fish are not to be found in the warm waters, particularly during the daylight hours. Bass, for example, at this time of the year, will be found hiding out in the deeper waters of the lake and the bay because these waters are cooler.

At this time of the year they are not so ready to strike at any lure that comes passing by. The weather has slowed them down and they are not actively on the feed all the time. For this reason, after one has found a deep spot which is likely to harbor a fish, he must fish his bait or plug slowly. The bass is not ready to expend too much energy in chasing food during warm weather.

Heavier lures are the answer for the plug caster in getting his bait down into "fishable" water. Drifting slowly over deep spots is the answer for the live bait fisherman, keeping plenty of weight on the line to get the bait down.

Fish that are sulking in the deeper spots all day are apt to work into the shallows on cool evenings. When the fisherman notices a sudden drop in temperature along toward evening he should try the shallow spots (which cool off quickly) for a feeding fish.

The same is true in stream fishing where the rapidly moving waters of the shallows are cooler than the sluggish waters of the deep pools when the sun has left them. Minnows or huge wet flies are best for this evening type of stream fishing, for bass or for trout. The addition of a spinner often helps.

Sereno, James, 429 W. 11th St., Erie, Pa. Altering a fishing license 25.00

Fayette County

Bayles, Charles N., 238 Crossland Ave., Uniontown, Pa. Operating a motor boat without a license 25.00
Sebeck, Eugene, Grindstone, Pa. Operating a motor boat without a license 10.00
Thorpe, Alfred, Box 349, Smithfield, Pa. Operating motor boat without lights 10.00

Forest County

Cooper, Joseph, 303 Cherry St., McDonald, Pa. One undersized bass 10.00
Johnson, John, West Hickory, Pa. Exceeding creel limit 10.00
Reddick, Clark H., West Hickory, Pa. Exceeding creel limit 10.00

Franklin County

Fisher, Harold R., R. D. No. 5, Chambersburg, Pa. Rods not under immediate control 20.00
Golden, Charles T., R. D. No. 1, Fayetteville, Pa. Exceeding creel limit 10.00
Haverstock, Clarence, 821 S. Main St., Chambersburg, Pa. One bass in closed season 10.00
Pepple, Glenn A., R. D. No. 2, Greencastle, Pa. Exceeding creel limit 10.00
Saunders, Roy D., 272 S. Main St., Chambersburg, Pa. Exceeding creel limit .. 10.00
Smith, James J., R. D. No. 2, Mercersburg, Pa. Illegal device 20.00

Fulton County

Peck, Chester J., Needmore, Pa. Illegal device 20.00
Peck, Chester J., Needmore, Pa. Fishing without a license 25.00
Peck, Chester J., Needmore, Pa. Taking bullfrogs with an artificial light 25.00
Peck, Chester J., Needmore, Pa. One undersized pickerel 10.00
Walls, Lloyd D., Needmore, Pa. One undersized bass 10.00
Walls, Lloyd D., Needmore, Pa. Illegal device 20.00
Walls, Lloyd D., Needmore, Pa. Fishing without a license 25.00
Walls, Lloyd D., Needmore, Pa. Taking bullfrogs with an artificial light 25.00

Greene County

Boden, Arthur, Box 166, Bobtown, Pa. Exceeding creel limit 10.00

Huntingdon County

Arnold, Henry, Robertsdale, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Hetrick, Fred, 410 Washington St., Mt. Union, Pa. Violations of the Rules and Regulations of the Pa. Fish Commission 20.00
Norris, Solomon G., James Creek, Pa. Fishing without a license 25.00
Norris, Solomon G., James Creek, Pa. Three undersized bass 30.00
Norris, Solomon G., James Creek, Pa. Interfering with an officer 100.00
Shunk, Frank, 203 Spruce St., Huntingdon, Pa. Fished with worms 20.00
Stallman, Cloyd S., R. D. No. 1, Mt. Union, Pa. Fishing without a license 25.00
Steel Roy D., Altch, Pa. Fishing without a license 25.00

Indiana County

Duffalo, Jan, 178 Ridge Ave., Homer City, Pa. Two pike in closed season 20.00
Felicko, Steve O., 24 Penn St., Clymer, Pa. Fishing without a license 25.00
Miller, Bede B., St. Benedict, Pa. Fishing without a license 25.00
Raymond, Carl R., R. D. No. 1, Ebensburg, Pa. Exceeding creel limit 20.00
Vukoder, Mike, Altman, Pa. Illegal device 20.00

Jefferson County

Phillips, Paul, 310 Pennsylvania Ave., Punxsutawney, Pa. Exceeding creel limit 10.00
Repiscak, Samuel, 916 7th Ave., Brockway, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00
Vance, Harold Jr., Tannery Rd., Falls Creek, Pa. Illegal device 20.00
Walchack, Robert J. Delancey, Pa. Transferring fishing license 25.00

Lackawanna County

Anscavage, Andrew S., 37 Ollendike St., Throop, Pa. Fishing without a license 25.00
Baryla, John, 1828 Clearview St., Scranton, Pa. Operating motor boat without displaying license plates 5.00
Bonitz, Guss, R. D. No. 3, Moscow, Pa. Exceeding creel limit 10.00
Curto, Robert, 626 N. Main Ave., Archabald, Pa. Operating a motor boat without displaying license plates 5.00
Gentile, Peter, 44 Hospital St., Carbondale, Pa. Operating a motor boat without a license 10.00
Kennedy, Jack D., 203 4th St., Blakely, Pa. Operating a motor boat without displaying license plates 5.00
Man, E. Lester, 212 Fairview Rd., Clarks Green, Pa. Operating motor boat without displaying license plates 5.00
Morris, Harman, 318 Wilbur St., Scranton, Pa. Operating a motor boat without displaying license plates 10.00
Petkus, Peter, 121 Pike St., Carbondale, Pa. One bass in closed season 10.00
Petroske, Stanley, 348 E. Locust St., Scranton, Pa. Illegal operation of motor boat 20.00
Pulaski, Anthony, 1495 S. Sherman Ave., Scranton, Pa. Three pickerel in closed season 30.00
Towanick, Peter, 121 Montgomery St., Moosic, Pa. Operating a motor boat without displaying license plates 10.00
Wettelet, August, R. D. No. 3, Moscow, Pa. Illegal device 20.00

Lancaster County

Becker, Albert, 426 Chestnut St., Columbia, Pa. Operating motor boat without displaying license plates 10.00
Hildebrand, Kenneth, Pequea, Pa. Operating a motor boat without displaying license plates 5.00
Howells, Robert R., 318 Atkins Ave., Lancaster, Pa. Exceeding creel limit 30.00
Humphreville, Alton C., 401 W. Orange St., Lancaster, Pa. Fishing in posted waters 25.00
Kauffman, Raymond, Washington Boro, Pa. Operating a motor boat without displaying license plates 10.00
Manning, Lloyd, R. D. No. 1, Washington Boro, Pa. Illegal device 20.00
Miller, George J., 28 N. Pine St., Lancaster, Pa. Fishing in posted waters 25.00
Miller, Paul E., R. D. No. 1, Pequea, Pa. Illegal device 20.00
Pierce, George A., 130 S. Queen St., Lancaster, Pa. Illegal device 2
Pugh, John A., 735 Beaver St., Lancaster, Pa. Operating a motor boat without displaying license plates 1
Rannels, Charles Jr., 329 S. Marshall St., Lancaster, Pa. One undersized bass 1
Ruby, Raymond, 26 E. Front St., Marietta, Pa. One undersized bass 1
Sinclair, Robert, 255 Marthart Ave., Havertown, Pa. Fishing in a closed stream 2
Spotts, Paul, Bowmansville, Pa. Illegal device 2
Wool, Clyde, 305 N. Mulberry St., Lancaster, Pa. Illegal device 2

Lawrence County

Bell Lorenzo, 719 Preston Ave., New Castle, Pa. Lending fishing license to wife 2
Haines, Ernest, Fountain Hotel, New Castle, Pa. Fishing without a license 2
Haines, Ernest, Fountain Hotel, New Castle, Pa. Rods not under immediate control 2

Lebanon County

Deluca, Fred A., 314 W. Main St., Myerstown, Pa. Exceeding creel limit 5
Seiger, Robert, Palmyra, Pa. Fishing with a borrowed license 2
Sperrow, Rudolph, Lebanon, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 2
Tice, Leroy M., 1131 Walnut St., Lebanon, Pa. One undersized bass 1

Lehigh County

Roth, David H., 447 2nd St., Slatington, Pa. One frog in closed season 1
Roth, David H., 447 2nd St., Slatington, Pa. Fishing in a closed stream 2
Sawruk, Walter, 949 Gordon St., Allentown, Pa. Fishing without a license .. 2
Smeltz, William, Jr., 1934 Virginia St., Allentown, Pa. One bass in closed season 1

What's New in Fishing Books

Reviewed by Hugh Johnson

The average fisherman has no trouble at all in telling his wife and friends the concrete things that happen to him on a trout stream—the number of fish caught, the big one that took leader and all, the size of the snake he killed, the ferocity of the bull that chased him, and the slippery stone that crept up behind him and tripped him head-over-heels. These are tangible little adventures, the surface manifestations of trout fishing.

But most of us have long since given up trying to tell others, especially non-fishermen, of what we *think* about while stream fishing for trout, what goes on in our minds, of the third-dimensional area of trout fishing experience. The difficulty is that what we feel and think about on a trout stream stems from the inarticulately intimate, sensitively strung relationship between the "inner man" and the beautifully isolated world through which a trout stream flows. These thoughts and feelings that come to us as we fish, other than those directly connected with the catching of fish, are vigorous and life-giving and right in every way when we keep them to ourselves, but when we try to put them into words on paper or in conversation, they either trail off into nothingness or are reduced to squashy sentimentality.

One fisherman, however, who has came as close as anybody to putting into wo the thought-world of the angler with losing its form on its delicacy, is How T. Walden in his book *Upstream and Do* This is a reissue by the Macmillan Comp (New York, N. Y.) at a $3.00 price o book originally published in 1938 by Derrydale Press at approximately three ti the price. Mr. Walden writes charmin and honestly about Fishermen (the Ba foot Boy, the Old Timer, Artists and S entists, the Purist, the Hog, and other typ about Times and Weathers, Luck ver Skill, Places, Gear, Fish Sense, and ot subjects, and it is all unsually enjoya reading because you get the weird but e citing sensation that *you* are in Mr. Walde waders and that it is *you* expressing yo self rather than the author. Here, with sentimentality, is real angling philosop the articulation of what the civilized tr fisherman really enjoys about his sport

Upstream and Down is concerned o incidentally with the technical virtuos which adds an extra trout or two to y creel. It's not a how-to-catch-more-an bigger trout book, but it *is*—in the fin tradition of Henry VanDyke and Bliss Pe —a series of essays direct from a real fish man's heart, representing a credo of angli which most fishermen will recognize i mediately and fondly as their own. Walden loves fishing, but he also has a fis eye for the artificialities that have gro with it, as when he writes: *I know of sport so riddled with taboos, so gangren with snobbery, so reeking with cant, as tr fishing. The purist is an aristocrat, the fisherman a gentleman, and the worme boor, according to the dicta of all that whi is cheap and false in this great diversi* This is a book with backbone and glowi personality, and I recommend it highly.

urne County

chard, Joseph, 415 Foote St., Duryea, . Exceeding creel limit 20.00
y, Vincent, 15 Green St., Edwardsle, Pa. Fishing in a closed stream .. 25.00
man, Fred L., 191 Willow St., Wilkesrre, Pa. Exceeding creel limit 10.00
iponti, Shirley, 6 W. Railroad St., ttston, Pa. Fishing without a license 25.00
y, Abraham J., 214 High St., Wilkesrre, Pa. Six bass in closed season .. 60.00
owski, Thomas, 3 Weaton St., W. yoming, Pa. Exceeding creel limit .. 10.00
k, Frank, E. Centre St., Shaverwn, Pa. One undersized bass 10.00
f, John, 522 Lincoln St., Hazleton, . Illegal operation of motor boat .. 25.00
icki, John J., 117 Smith St., Dupont, . Illegal operation of motor boat .. 10.00
tione, Faust, Rear 31 E. Railroad ., Pittston, Pa. One bass in closed ason 10.00
eleno, Vincezo, 2250 Fern St., Freeod, Pa. Two undersized bass 20.00
se, Clyde, W. Market St., Sheppton, . Fishing in a closed stream 25.00
ieski, Peter, 104 Chittenden St., uryea, Pa. Exceeding creel limit 20.00
avage, Joseph, 32 E. Grove St., Edardsville, Pa. Fishing in a closed ream 25.00
ards, John, 58 Hughes St., Luzerne, .. One pickerel in closed season 10.00
iards, Thomas, 9 George St., Pittston, t. One bass in closed season 10.00
foss, Earnest, Jr., 1026 Exeter Ave., ttston, Pa. Exceeding creel limit .. 10.00
lewski, Vincent, 221 Chestnut St., upont, Pa. Two undersized pickerel 20.00
mas, Robert, 1 Wayne St., W. Hazlen, Pa. Exceeding creel limit 20.00

oming County

r George P., 1008 Memorial Ave., illiamsport, Pa. Violation of the les and regulations of the Pa. Fish ommission 20.00
urn, Malcom F., R. D. No. 2, Muncy, . Fishing in a closed stream 25.00
mer, Donald, 1737 Lycoming Creek d., Williamsport, Pa. Violation of the les and regulations on Slate Run .. 20.00
gen, Herman, 515 Depot St., Williamsrt, Pa. Operating motor boat witht displaying license plates 10.00
hey, Clarence H., 424 Mulberry St., ontoursville, Pa. Fishing in a closed ream 25.00
nings, Laughlin B., 1119 Franklin St., Williamsport, Pa. Fishing without a license 25.00
Johns, Clarence, Box 82, Newberry, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00
Koznowski, Adam, Ralston, Pa. Fishing in a closed stream 25.00
Libby, Charles A., 121 E. Church St., Williamsport, Pa. Fishing in a closed stream 25.00
Lundy, George J., 227 Hughes St., Williamsport, Pa. Fishing in a closed stream 25.00
Stewart, Hurley E., 864 First St., Williamsport, Pa. Fishing in a closed stream 25.00

McKean County

Gould, Norman E., 7 Merrow Ave., Bradford, Pa. One undersized trout 10.00
Miller, Charles W., Ceres, Pa. Fishing without a license 25.00
Oaks, Leonard, R. F. D. No. 1, Bradford, Pa. Operating a motor boat without a license 10.00
Palmatier, Leonard C., Hetula, Pa. Nine undersized trout 90.00

Mercer County

Diegan, James, 1175 Sharon Ave., Sharon, Pa. Fishing without a license 25.00
Lilly, Robert, R. D. No. 2, Sharon, Pa. Illegal operation of motor boat 25.00

Mifflin County

Arnold, Charles C., 707 Maple Ave., Lewistown, Pa. Operating a motor boat without a license 10.00
Bartlett, James H., R. D. No. 2, Lewistown, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00
Eckley, Robert L., Granville, Pa. Rods not under immediate control 20.00
Harshbarger, Warren A., R. D. No. 2, Lewistown, Pa. Illegal device 20.00
Shawver, Nevin E., R. D. No. 2, Lewistown, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00
Taylor, Curtis L., R. D. No. 3, Lewistown, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

Montgomery County

Beve, Albert, 69 Jamison St., Lacey Park, Pa. Exceeding creel limit 10.00
Chuck, Julius, 2nd Ave., Royersford, Pa. Lending a license 25.00
Chuck, Michael, 53 Second Ave., Royersford, Pa. Fishing without a license .. 25.00
Dickey, Wilson Sr., Skippack, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00
Haylnum, Rich, 666 Woodcrett Ave., Ardmore, Pa. Fishing in a closed stream .. 25.00
Irvin, Samuel W., Gravel Rd., Collegeville, Pa. Illegal device 20.00
Kessler, Joseph M., 757 Cricket St., Ardsley, Pa. Exceeding creel limit .. 20.00
Nast, John E., R. D. 1, Lansdale, Pa. Operating a motor boat without displaying license plates 10.00
Onufer, John J., 744 Farley St., Sweedsburg, Pa. Illegal device 20.00
Trunk, Carmen, 515 East Ave., Glenside, Pa. One undersized bass 10.00

Northampton County

Benner, Charles H., 1153 Westover Lane, Bethlehem, Pa. Exceeding creel limit 10.00
Frace, Bertram C., 2121 W. Broad St., Bethlehem, Pa. Fishing in a closed stream 25.00
Gotzon, Francis, 1399 E. Eighth St., Bethlehem, Pa. Fishing without a license 25.00
Gotzon, Francis, 1399 E. Eighth St., Bethlehem, Pa. Fishing in a posted stream 25.00
Pusch, John, 1241 First Ave., Hellertown, Pa. Fishing in a closed stream 25.00
Selveiki, Donald, 1393 E. Eighth St., Bethlehem, Pa. Fishing without a license 25.00
Selveiki, Donald, 1393 E. Eighth St., Bethlehem, Pa. Fishing in a closed stream 25.00

Northumberland County

Anderson, Michael M., 821 Clay St., Shamokin, Pa. One undersized pickerel 10.00
Angelo, Leonard A., Keyser, Pa. One undersized bass 10.00
Angelo, Leonard A., Keyser, Pa. One bass in closed season 10.00
Cutis, Michael, 115 N. Hickory St., Mt. Carmel, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

Perry County

J. F. Bensel and Kenneth Horting, Newport, Pa. Anti-dating a fishing license 100.00

Philadelphia County

Blum, Milton A., 2445 S. American St., Philadelphia, Pa. Fishing without a license 25.00
Chippendale, Edward W., 4658 James St., Philadelphia, Pa. Fishing without a license 25.00
Cullen, James, 1206 S. Ruby St., Philadelphia, Pa. Fishing without a license 25.00
Curtis, Richard, 955 E. Chelten Ave., Philadelphia, Pa. Fishing without a license 25.00
Lehman, Clarence J., 218 W. Chew St., Philadelphia, Pa. Exceeding creel limit 10.00
Magilner, Albin, 1746 E. Washington Lane, Philadelphia, Pa. Operating a motor boat without a license 10.00
Mahammitte, Charles V., 1923 N. 12th St., Philadelphia, Pa. Fishing without a license 25.00
Mander, Joseph, 1107 Parrish Place, Philadelphia, Pa. Fishing without a license 25.00
Schoellman, William, 203 Chelten Ave., Philadelphia, Pa. Reckless operation of motor boat 75.00
Weinstein, Philip, 2444 S. American St., Philadelphia, Pa. Fishing without a license 25.00
Wyatt, Jack, 4725 Oakmont St., Philadelphia, Pa. Lending a fishing license 25.00

Potter County

Phillips, Walter L., Box 114, Shinglehouse, Pa. Illegal device 20.00

Schuylkill County

Bova, Lovis, R. D. No. 1, Ringtown, Pa. Two undersized pickerel 20.00
Chapasco, Daniel, 333 W. Oak St., Shenandoah, Pa. Exceeding creel limit 10.00
Friday, Alfred, R. D. No. 1, Ashland, Pa. Illegal device 20.00
Kocher, William, 506 N. 2nd St., Pottsville, Pa. Operating a motor boat without displaying license plates 10.00
Rehatchek, Edward, 175 Penn St., Tamaqua, Pa. Fishing without a license 25.00
Sakusky, Anthony, 264 Blaine St., McAdoo, Pa. One undersized bass 10.00
Schoffstall, Clarence, 1819 Elk Ave., Pottsville, Pa. Fishing in a closed stream 25.00

Snyder County

Ritter, Ernest E., R. F. D. No. 2, Winfield, Pa. One bass in closed season 10.00
Ritter, Ernest E., R. F. D. No. 2, Winfield, Pa. One undersized bass 10.00

Somerset County

Beistel, Walter, R. F. D. No. 1, Hooversville, Pa. One undersized bass 10.00
Durst, Henry, R. D. No. 3, Somerset, Pa. Fishing without a license 25.00
Durst, Henry, R. D. No. 3, Somerset, Pa. Illegal device 20.00
Guydo, Alex J., Senior, Pa. Fishing in a closed stream 20.00
Henry, Oscar, R. D. No. 3, Rockwood, Pa. Illegal operation of motor boat 10.00

The Fallfish

(*From page 5*)

te surface, I employ a large dry fly, sch as the white or Gray Wulff, nply because it doesn't drown as ickly as more delicately tied dries.

I have never found anything wrong th the fallfish as food, except that ey are rather bony. This is easy to ercome, though. When the big ales have been removed from the eaned fish and it is being prepared r the pan, take a sharp knife and ore it several times on both sides e entire length of the body. Make e cuts deep enough to go through e small rib bones. Then, when the h is fried or broiled, the heat will t to these small bones and cook em into nothingness. The same ing, by the way, can be done with l fine-boned fish.

I, for one, would miss the fallfish it disappeared from Pennsylvania reams, and am glad that it has full atus as a game fish. Perhaps I like most because it has saved me from ing completely skunked on more an one fishing trip.

Try Tying Hair Bugs

(*From page 6*)

yellow, red, white and brown. You can very easily fill your tackle box with these lures and be prepared and ready for the times when black bass are surface feeding.

Armed with a fly rod and an assortment of these hair bugs, you can rest assured that you can take bass in any part of Pennsylvania as well as from Maine to Florida. Not only are you able to equip yourself with a good assortment of these lures, but catching bass on bugs constructed by yourself will add a charm to angling that is otherwise unknown.

So try tying some hair bugs now, you'll find it a delightful pastime.

Pipta, Mrs. Julia, 91 School Ave., Jerome, Pa. Fishing without a license 25.00
Rose, Herman L., Box 73, Senior, Pa. Fishing in a closed stream 25.00

Susquehanna County

Drasler, Rudolf L., 112 Vine St., Forest City, Pa. One bass in closed season .. 10.00

Tioga County

Boom, Ray, Westfield, Pa. Two undersized bass 20.00
Conva, Frank, 15 King St., Wellsboro, Pa. Three undersized bass 30.00
Holley, Thomas Jr., Morris Run, Pa. Lending a fishing a license 25.00
Houghteling, Leonard V., Box 15 Buffalo St., Elkland Pa. Fishing without a license 25.00
Jessup, Howard E., Blossburg, Pa. Fishing without a license 25.00
Losinger, Russell M., R. F. D. No. 4, Welisboro, Pa. Illegal device 20.00

Union County

Dingle, Fred J., White Deer, Pa. Operating a motor boat without displaying license plates 10.00

Venango County

Ahrens, Richard, Imperial St., Oil City, Pa. Fishing in a closed stream 25.00
Archer, Garland A., Franklin, Pa. Operating a motor boat without displaying license plates 5.00
Beggs, John, 1009 Elk St., Franklin, Pa. Operating a motor boat without a license 10.00
Bernstein, R. L., 35 Big Oak Drive, Franklin, Pa. Fishing in a posted stream 25.00
Burchill, Arthur L., 19 Hazel St., Franklin, Pa. Operating a motor boat without a license 10.00
Gerenday, Joseph, Route 1, Oil City, Pa. Fishing in a closed stream 25.00

Warren County

Shepard, Wilbur, Russell, Pa. One frog in closed season 10.00
Swcet, Charles A., R. D. No. 4, Sugar Grove, Pa. One frog in closed season 10.00

Washington County

Carey, Evelyn, 139 Shrub Ave., Washington, Pa. Fishing without a license 25.00
Doyle, Alfred F., Marianna, Pa. Exceeding creel limit 10.00
Gessler, Carl J., 32 W. College St., Cannonsburg, Pa. Fishing in nursery waters 100.00
Hampson, John E., Meadowlands, Pa. Fishing without a license 25.00
Mack, Isiah, 74 Erie St., Washington, Pa. Rods not under immediate control .. 20.00
Mucko, Julius, Box 420, Daisytown, Pa. Illegal operation of motor boat 10.00
Nara, Louis, 8 Mellon Ave., Donora, Pa. Illegal device 20.00
Papetti, Leonard C., 556 Tannerhill St., Cannonsburg, Pa. Fishing in nursery waters 100.00
Pusatri, Michael, 110 N. McDonald St., McDonald, Pa. Exceeding creel limit .. 10.00
Reyay, Edward, R. D. No. 2, Burgettstown, Pa. Fishing without a license .. 25.00
Trembath, Arthur L., Milisboro, Pa. Exceeding creel limit 20.00

Westmoreland County

Eamigh, Charles, Box 144, Latrobe, Pa. Fishing in Hatchery Waters 100.00
Gay, Joseph, 1207 Pennsylvania Ave., Jeannette, Pa. Operating motor boat without displaying license plates 5.00
Lasik John M., 103 E. Hill Drive, New Kensington, Pa. Operating motor boat without a license 10.00
Markosky, Stanley, R. D. No. 3, Irwin, Pa. Rods not under immediate control 20.00
Martin, William A., 424 Green St., N. Belle Vernon, Pa. Fishing without a license 25.00
Marto, Samuel A., R. D. No. 7, Box 340-A, Greensburg, Pa. Rods not under immediate control 20.00
Martz, George O., R. D. No. 1, Murrysville, Pa. Fishing without a license .. 25.00
McCune, Samuel K., Box 644, Trafford, Pa. Exceeding creel limit 20.00
Peters, L. M., Van Meter, Pa. One undersized bass 10.00
Sloan, Gerald R., Box 150, Coakville, Pa. Fishing without a license 25.00
Suzio, Felix, 730 Fifth Ave., New Kensington, Pa. Exceeding creel limit 10.00
Wolfe, Donald C., Box 132, Salina, Pa. Two undersized bass 20.00
Zeltner, Donald, Latrobe, Pa. Fishing in Hatchery Waters 100.00

Wyoming County

Crew, Henry, Osterhout, Pa. Illegal device 20.00

York County

Kuhn, Ralph, 765 Carlisle St., Hanover, Pa. Fishing without a license 25.00
McMahon, Charles, 251 N. Second St., Columbia, Pa. Operating a motor boat without a license 10.00

Out of State

Hale, Theodore F., 630 Catala Ct., Santa Clara, Cal. Fishing without a license 25.00
Eastburn, 315 Cranston Ave., Wilmington, Del. Fishing without a license .. 25.00
Nestor, John W., 215 Edgewood Dr., Wilmington Del. Fishing without a license 25.00
Kintner, Edwin L., 839 Locust St., Winnetka, Ill. Illegal device 20.00
Miller, William S., 5442 Winthrop Ave., Chicago, Ill. Fishing without a license 25.00
Bonebrake, Charles W., 309 Bryon Place, Hagerstown, Md. Fishing without a license 25.00
Shell, Arthur T., 7102 Taylor St., Landover Hills, Md. Giving false information to secure license 25.00
Capko, Joseph, 186 Cambridge Ave., Garfield, N. J. Fishing without a license 25.00
Kemmeyer, Clyde, 345 Depue St., Dumont, N. J. Fishing without a license 25.00
Filco, George, 25651 25th St., Long Island, N. Y. Fishing without a license 25.00
Kenmore, Bernard 119 Fairfield Ave., Kenmore, N. Y. Operating a motor boat without a license .....
Lubniewski, Stanley, 117 Prospect St., Binghamton, N. Y. Operating a motor boat without a license .....
McFadden, Richard B., 2452 Delaware Ave., Buffalo, N. Y. Six undersized trout ..
Norris, Walter, 61 E. 177th St., New York City. Fishing without a license .....
Terzo, Nicklos T., 889 Bushwick St., Brooklyn, N. Y. Fishing without a license .....
Vought, William C., Box 185, Roxbury, N. Y. Fishing without a license ....
Allied Terminals, Inc., 1700 Standard Bldg., Cleveland, Ohio. Polluting with oil in Presque Isle Bay .....
Heck, Ralph W., Columbiano, R. D. 1, Ohio. Operating a motorboat without a license .....
Kline, Betty J., Box 233, Uniontown, R. D. 1, Ohio. Fishing without a license
Kline, Earl E., Box 233, Uniontown, R. D. 1, Ohio. Fishing without a license
Lawrence, William, 778 E. 93rd St., Cleveland, Ohio. Trespassing and fishing in State Fish Hatchery .....
Horabaugh, Jack, 2393 Kingsley Dr., Akron, Ohio. Fishing without license
Hinicker, Jerome J., Falls Church, Va. Operating motor boat without a license

Streamside Life

THE YELLOW BIRCH

By Robert Leo Smith

When the angler finds along the streamside a tree with bronze colored bark that is peeling off in loose, curly sheets around the trunk, he can mark it down as a friend. It it the yellow birch, to the outdoorsman one of the most useful trees. The aromatic bark of the smaller twigs is as tasty to chew as young wintergreen leaves. The papery bark is highly inflammable even when wet, burning with a fragrant, oily smoke. Many have found yellow birch bark tinder the only sure way to start a camp fire on a rainy day.

Not only is the yellow birch a very practical tree but it is one of our most beautiful as well. A young yellow birch, with curly bark tinted bronze and yellow and golden-grey, clutching a mossy streamside boulder among the deep green growth of hemlocks and rhododendron is a sight any angler will cherish. It is a woodsy tree, one that would be entirely out of place anywhere else. It is the epitome of cold mountain streams and the cool, pungent smell of the forest.

Since it is a prolific seeder, the yellow birch is a prosperous tree. Its winged nutlets are so light that they are easily carried by the wind; and the seeds readily sprout on any moist place. Moss-covered boulders and partly rotted stumps are often the resting places of the seeds. Here the seedlings thrive and grow, sending their roots down over the boulders and stumps to the ground. Through time the stumps rot away, leaving the birch tree standing on "stilts."

The staminate flowers appear early in spring with the leaves and develop from catkins several inches long. The pistillate or female flowers grow in small cone-like structures, reddish above and green below. This pistillate structure eventually develops into a "cone" containing the winged nutlets.

The yellow birch is a medium-sized tree from 60 to 75 feet high and from 12 to 24 inches in diameter when mature. It has a shallow, spreading root system and an irregularly rounded crown. The bark of a mature tree is plate-like and reddish brown in color and the twigs are brown, grey and green. The leaves, 4 inches long and bo in pairs, are oval, pointed and sha toothed, dark green above and yellow gr beneath.

A typical hardwood of northeast United States, the yellow birch is found rich soil in moist woodlands, especially al streams and the borders of swamps. It it is associated with beech and maple, he lock, red spruce and balsam fir. Altho foresters consider the yellow birch more less an inferior species, it is neverthe a valuable tree. It is one of our lead furniture woods; it is used in the ma facture of flooring and millwork, bo baskets and crates, handles, spools and b bins. In addition it is the source of oil wintergreen, obtained from its twigs wood by distillation. Thus the yellow bi servcs not only to enrich the beauty of streamside but also to enrich our daily liv

Our Northern Pike

(*From page* 13)

lighter lures as well as the heavier ones, you would do well to carry an extra line.

For night fishing, or for just getting an out of an out-of-the-way fishing spot back in the brush before or after daylight hours, a good flashlight is a friend in need. If you have need for a flashlight, there is always a good chance that you will have need for extra batteries or an extra bulb. I always carry all three.

A good grade of machine oil has a rightful place in anyone's tackle box. The manufacturers of reels recommend a drop of oil at the crucial points of gear before each fishing trip. You can't forget to oil your reel if you carry your oil with you. Or maybe the outboard motor needs a few drops. If you happen to drop your reel in dirty water or sand, it might need a thorough cleaning. And, after cleaning, it takes oil.

An extra roll of film, or film pack, may make the trip for you. More than once I have come home from a successful fishing excursion without any fish. It was the picture of Ed losing the big one, a buck drinking at the water's edge, a flock of ducks that allowed us to approach close enough for a good picture or some other equally interesting shot that gave me my money's worth. If one of the opportunities comes up just after you have finished the last shot on the film in the camera, extra film becomes a much needed must.

That fish scale? Well, being a fisherman, I know that I'm entitled to exaggerate some without actually being called a liar. But, I don't like to do it. I like to know just how heavy the big ones are after they are caught. That little scale is quite accurate, and it gets checked once in a while just to make sure. Since it is impractical to carry a fish home without removing the insides, I like to take their weight as soon as they are caught to compare them with ones caught before. If everyone would check their fish the same way, we wouldn't hear about so many big ones reported from someone's imagination, and fellows like you and me wouldn't be so hard pressed trying to keep up with them.

That old bandanna handkerchief has a multitude of uses. You can use it to wipe your hands after catching a fish and not run so much risk of losing your casting rod on the next heave with slippery fingers. It can be used to dry lures before returning them to the tackle box, to wipe off your fly rod before placing it back in its case or as a temporary bandage if your knife slips. If the big one gets away, you can use it to dry your tears.

All of the above items are ones that I believe that every angler should carry in his tackle box in one form or another. They have proven their value many times over for me, and I sincerely believe that you will, or have, found a use for all of them at one time.

These to me are the musts. One tool omitted, because I carry it in my fishing jacket, is a tiny screw driver. It is invaluable when it becomes necessary to take apart a reel or work on some of your lures. You can obtain one with a pencil clip such as I have or one of the little combination sets that fit several screw drivers compactly within a case only as large as the handle on the largest screw driver.

In addition to all these, I also carry a small wrench for the outboard, extra shear pins, stringer, hook extractor, single edge razor blades and anything else that I think I might need.

I have the same amount of useless plugs and spoons and assorted junk lures that I carry around the country the same as you do, but I'd part with any or all of them before I'd be caught on an extended fishing trip without any of my "tackle box extras."

Constructive Criticism

July 31, 1950.

Editor of The Pennsylvania Angler
Dear Sir:

I notice on page 24 of your July issue a recommendation for keeping fly fishing lines over winter. I am sorry to say that this is about the worst possible way to do this. The coatings of dry fly lines get injured through oxidation and exposing them to air is just the way to injure this coating. The lines should be protected from the atmosphere entirely. I use a bath of white mineral oil such as Alboline and immerse the lines in this completely all winter. This oil is completely inert chemically and absolutely excludes the air. I have lines which were kept this way for over 12 seasons in perfect shape. Lines can also be kept immersed in water if this has been boiled to exclude the air and contains an antiseptic such as benzoic acid to prevent any moulds forming or bacterial action. Whatever is done don't leave lines exposed to the air.

Sincerely yours,
EDWARD R. HEWITT,
R. F. D., Parksville, N. Y.

The largest catfish ever recorded was alleged to be 6 feet 2 inches long and weigh 160 pounds, according to Eddy and Stuber's "Northern Fishes."

THE FALL MEETING OF THE PENNSYLVANIA FEDERATION OF SPORTSMEN'S CLUBS WILL BE HELD IN HARRISBURG, OCTOBER 14TH, 1950.

Tackle Box Extras

(*From page* 7)

they halted completely the travels of the Northern Pike. With the increase of roads and railroads the mills fell one by one into disuse, and the associated dams have now finally succumbed to the force of the waters until none remain. The dam near Sandy Lake was the last to wash away, and the expansion of these fishes into other waters would appear to coincide with its removal.

Now I believe it was the presence of these mill dams, stopping the free migration of pike to and from their spawning beds in the upper reaches of Big Sandy Creek, that held their numbers to a minimum. I believe it because I know these fish may be found far up in trout brooks tributary to the Allegheny and to Big Sandy Creek wherever there is no barrier to their progress. But none of these other brooks contain the weed beds necessary to successful hatching of the pike fry. Again, I do not exactly know how high the barrier in the stream must be. Most of the before mentioned mill dams had a fall of perhaps six to ten feet. In some of the trout brooks a barrier only a foot or so high would seem to halt the Pike. It is an interesting problem.

I can say this, however, that it is of no great importance now whether the Great Pike is an original inhabitant of these waters, or whether he is an immigrant of only 30 or 40 years standing; it looks as if he is here to stay and we should make the most of it.

Finally, never let one of these fish trick you into thinking he is exhausted just because he lets you lead him easily up to the boat. Ninety-nine times out of a hundred he is plotting new deviltry while he rests. You cannot say he is yours until he is completely in your grasp—and well away from the water!

The epithet 'snake' hung on the Great Northern Pike in some sections derives somewhat from his appearance, true; but it also gives the tenderfoot a good clue as to the character of the critter. Enough said!

Large Black Bass From Elk Lake

What is regarded as the largest smallmouth black bass ever caught in Susquehanna County was taken recently on a South Bend surface lure. The Bronze back weighed seven pound, twelve ounces, measured 24 inches long and had an 18¼ inch girth. The catch was reported by Fred Narr of Ardmore, Penna.

Lakes of North-East Pennsylvania

By Joseph A. Yanchik

Lake Westcolang

Thrilling fishing awaits the angler at Lake Westcolang. One of the finer lakes in Pike County, Penna., it is particularly well stocked with pickerel. It was the author's pleasure on Saturday, October 1 '49 to fish this pond and it was the most enjoyable day's fishing I have had in many months. After driving into Hawley, Pa. we took route 590 across the Lackawaxen River and wended our way along a steep, narrow road, which has more curves in it than the steps of an inebriated sailor on a holiday leave. Extreme caution in driving is essential on this highway. Any idea of speeding on this road is insanity. There are abrupt curves on this highway that are perfect angles. If you can imagine a road with such curves appearing at frequent intervals, then you may well realize how hazardous the journey really is. However, slow driving eliminates the danger. There are many country roads stemming from this highway and one can become lost in a jiffy. The best idea is to get to Lake Tink-Wig, first, and then keep to your right until you come to a bridge that completes a sharp "L" curve. You continue for a mile or two and then you turn to the right on a dirt road which is several miles long. At the lake entrance you turn right to Jame's landing, which is one of the few public landings on the lake front.

The first view of the lake is disappointing since you see so little of it. It is "L" shaped and much of the water is hidden from view for this reason. The shore lines are filled with lily pads which extend out into the lake for a considerable distance. The lake is not very wide but is quite deep in spots. At the right of the lake and veering to the sharp left turn, are many floating islands of dried tufts of several varieties of grass which grows to seven or eight feet in height. Between these islands are canal like openings that adjoin the stumpy part of the lake where many lily pads grow wildly about. The water under the floating islands is very deep and that is where Mr. Pickerel is supposed to lurk. The side of the lake near the highway contains many fine cottages but there are a few dilapidated ones in their midst. The countryside is pleasant and the smell of apples from nearby orchards was plainly discernible. Stately trees surround the cottages and some willows dip their branches into the waters lapping the shore.

Boats are scarce and rent for two dollars per day. The one we were in was of shallow draft, quite long, but very shallow. It was strongly built and dry. Its narrowness made it seem like we were riding in a canoe. I stayed put in this boat being afraid to move. That took a lot away from the pleasures of the trip. I do not believe there is more than a dozen boats for rent on the whole lake. We were lucky to get there in time to get two.

Well supplied with live bait, we went to and beyond the "L" shaped part of the lake among the dozens of floating islands. The water was very choppy and the wind a bleak, chilly breeze. We anchored in about 12 feet of water. While we waited for action to begin our attention was drawn to the many interesting things about this lake which others do not possess, in as large a number, perhaps. Some large egrets stood about the shoreline, like poised sentinels. Some of them with their heads under their wings. A large, pelican like bird flapped its wings lazily as it flew over our boat. Its wing spread must have been 5 or 6 feet. However, the antics of some young ducklings, which dove under the water near our boat, was very entertaining. One of them dove in, was gone for a while and then popped up right near my end of the boat. I could have caught him with my bare hand if I had expected him there. He did scare me. I thought it was a big fish. Flocks of big ducks circled about the lake, their dark bodies silhouetted against a pale October sky. They flew into the colorful fall foliage of the trees about the lake.

My companions were becoming restless. The highly touted pickerel were conspicuous by their absence. A few small perch, catfish and sunnies gave us some action. An occasional perch would gulp a live bait and it seemed as if the pickerel were started. Disappointment, again?

We spent the whole morning among the floating islands with little success. After some persuading, I managed to coax our oarsman to go back to where we started from along the docks where the water seemed even deeper. We pulled anchor and went.

After bucking the waves we came near the docks where the water was much calmer. We cast in our live bait with great expectancy. For once my judgment was right. Two corks disappeared into the water simultaneously. As I gave more line to the fish, I was watching my companion struggling with his catch. He had his hooked and his bamboo was arched like a half of a circle. Then, I gave the hook to the fish on my line. It felt heavy. Suddenly the other lad with us yelled with glee as his red bobber took a nose dive into the green water. He had hooked still another fish. Three pickerel bounced in our boat a few minutes later. Marty had the best catch; twenty-four inches of fighting pickerel. Junior's was the second largest, eighteen; while mine was a measly sixteen incher. That was just the tonic we needed and hurriedly we baited on the minnows. Again Marty's bobber disappeared but he missed this fish. After that the action ended. We tried bugs, worms and more live bait, but in vain. Incidentally, this lake is loaded with small live bait and it is better to have large ones in your minny bucket.

Our two companions in the other boat came by a few minutes later and related the story of how the biggest pickerel they ever saw got away on them when it ran under the boat and got fouled on the anchor rope. When they saw our three pickerel, they hated to go home, but the day had waned and the way home was very long. We left Westcolang and are looking to a return trip before the snow flies. Mighty big pickerel in a delightful lake. Put it on your agenda for your next season's big fish hopes. You'll like this lake. We did.

Lake Tink-Wig

You can visit two other lakes on your way to Lake Westcolang: Lake Tink-Wig and Lake Tedyuscung. Route 590 takes you to them. Lake Tink-Wig is the middle lake between Westcolang and Tedyuscung Lake. It is in Pike County, situated between low slung mountains and a heavily wooded valley. It is right near the highway but is not discernible on account of the big forests that embrace its waters. It is a long, narrow lake quite deep in spots and as wild and woolly looking as any of the dozens of lakes I have fished in the Pocono Mountains. At its entrance is a rustic cabin made of what appears like red wood and the nearest thing to the cabins seen on Canadian Lakes. This is strictly a private lake and the price of the boats depends upon the whim of the proprietor. It ranged from a dollar per person during the pickerel season, and less during the regular non-game fish period. About every species of fish abound in this lake. It can be said that the owner stocks his lake well and gives the angler a break in that manner. Pickerel are supposed to be the prize catch in this little lake and well they should be for the owner has signs posted warning that pickerel under 14 inches must be thrown back. Naturally, the pickerel grow large here and some fine catches are made.

Like other lakes in Pike County, Tink, is pretty heavily fished. Fine boats are available and are at a premium during the game fish season. It was our luck to get there when all of the boats were hired, but I did see some fine catches of pickerel taken by some

Pennsylvania Fish Commission Activities

(*From page 5*)

Rules and Regulations Governing the Operation of Motor Boats

The rules and regulations governing the operation of motor boats from April 1, 1951 to March 31, 1952, were approved with the instructions to strengthen the sections having to do with the protection of the public and those engaged in other forms of recreation.

Program Covering Acquisition of Streams, Construction of Lakes, Repairs to Dams, etc.

The Commission has made definite progress in its program to create lakes, repair dams, and the acquisition of fishing rights on streams.

A complete report will be made by C. A. French, the Executive Director, in the October ANGLER.

Dr. Trembley will also make a report to the State Federation of Sportsmen's Clubs at its meeting in October. His report will cover the biological studies which have been made during the last two summers.

m who came to shore for their lunch. It w with reluctance we left this lake but I h the opportunity to size it up and it lked so promising that I have made plans ish it later.

uring my sojourn to these many lakes o r many many years of intensive fishing I a convinced of one thing and that is that fi ing is gaining more and more recruits e h season. Therefore, boats are getting sce since hundreds of fishermen are being ned away from many lakes. Many of t m cannot fish on our lakes because of the la of the proper facilities. As high as 35 c s filled with fishermen have been turned b k at a private pond on which I fished not lo g ago. Many of the men were bitter. S ne had traveled as high as 100 miles. I agine the money involved in the cost of t se thwarted trips. Of course, many of t m end up the day at Wallenpaupak, where t real big fish are. Still, it means that we n d more lakes for more fishermen; better b ts and more fish. Imagine what would h e happened to our fishing if we didn't h e our fish commission to take care of our s te stocked lakes and the individual owners w o sink their money into private stocked l es? You can bet your bottom dollar t t without them you'd be doing your fi ing in the bath tub.

Yes, Lake Tink-Wig is another good lake, i you get a chance to get a boat to fish it. P itively no shore fishing, even for kids.

'll tell you about lake Tedyuscung in a s sequent article. WE call it Big Chief lake a l when the day is right at this lake your w ist gets sore from pulling them out.

Bomingdale Pond

Off the beaten track, this little lake or pond h s had a certain fascination for me that is v itably irresistible. It was originally used a a power station and its cascading waters r ved a tremendous wooden wheel which t ned the great circular stones that ground t grain for the farmers for many miles a und. The water still spills over a high w ll into the deep gully below, but the w eel and the mill is gone into the realm of a tiquity. The waters from the dam pour i o the aforementioned ravine and create a c ek that possesses some of the finest trout i Pennsylvania. However, the entire length o this creek is posted and belongs to the B oming Grove Association.

In Pike County, Bloomingdale Pond is s rrounded by permanent dwellers, many of t ir homes being situated right on the lake f nt. On the other side of the highway are a y other homes which make up quite a c mmunity in this tiny village. It has a fine h tel near the old spillway, where the boat l ding is and where they may be rented f m $1.00 up to $1.50 for the rental of the c ttage owners boats.

The lake is narrow near the hotel but d dens out considerably into a stumpy area w ose width is far greater than anticipated. G een scum embellishes these ancient stumps a d they are as slippery as an eel. Tufts of g ass protrude from the shallower areas and t e natural pickerel haunts. There must have b en huge trees in this location once upon a t ne if the width of these stumps is any i dication. On one of the higher stumps we f und a duck's nest with seven brownish e gs. The duck flew off the nest just as we c me nearby and then quacked shrilly until we politely moved on. Then, it gracefully alighted on the nest to keep the chill of the air from a potential duckling family.

The water is quite deep in this little lake and we estimated it to be at least 25 feet in its greater depths.

In the shallower waters we caught some fine perch and fat bluegills. Pesky shiners, darting through the green scum would hit our bait viciously and we moved quickly away to preserve our remaining worms. Anchoring into about 20 feet of water we waited for something big to come along. We pondered as to the wiseness of this move when sunnies, not longer than three inches in length, began to hit our hooks, and the big fish just weren't hitting. Then it happened! I was hoisting up a small sunfish from this great depth and had it near the boat when a big pickerel's mouth, with large teeth, took the sunny from my hook, gave one terrific tug, and then nose dived into the green water. Its great tail splashed me in the face as I leaned over to watch this brazen theft. Talk about palpitations of the heart! I shook like a leaf. I've been trying to catch a huge pickerel all of my life and here I saw one that looked like the original one planted here ages ago. When I recovered, I placed a larger hook on my leader; placed a big night walker on it carefully and dropped it in the same place. How I was praying for the sunfish to spare that bait! Presently, something began to tug at my line. Another minnow, maybe. The tugs continued and then my pole almost was jerked out of my hand. I swished my line sideways and I hooked what appeared by weight, to be a log. I had no cork on my line and I began to reel in as fast as I could. Then, I grabbed the line and began to pull it in without the reel's aid. Presently, I saw the same monster that stole my sun fish. He must have been thirty inches long. He was brownish in color and whipped the water into a churn as I get him closer to the boat. My companion grabbed the landing net. He made the attempt to land. The fish dove under the boat. I pulled him out from under and he bee lined it for the open lake again. "Play him," shouted my buddy. I did and brought him close to the boat again. Another try with the net and this time it happened, the net was caught on the fish's hook, on the bottom. My friend scooped up the net but he also pulled the hook out of the pickerel's mouth with the net and the prize which I had waited for so long slipped into the water and disappeared. No one spoke for a moment. The occasion was too solemn for speech. We simply folded up our gear, pulled up anchors and rowed shoreward. At the hotel we told of our disappointment. Some of the old timers just shook their heads.

"Was he sort of a yeller looking feller with teeth like a buck-saw and about this long?" The question was asked by an old bearded gent with eyes that looked keenly into mine.

"It was!" I replied.

"Was he about a yard long?" He continued.

"It seemed so." I replied.

"Consarn that pickerel. He gets caught twenty times a year. Did you notice the leaders hanging out of his jaw?"

"I did." I answered.

"Well, when I catch him I'll get into hardware business and sell fishermen their own hooks." He chuckled reminicingly. "You see, young feller, I had that pickerel on my line every year at least once. You get him near that upright log almost in the middle of the dam. He's made more monkey's out of fishermen than any fish I ever heard of. We call him OLD GRAND DAD. Reckon he'll still be in the dam after November 30."

I was at a loss for words but 'till this day all I need do is close my eyes and think of that day at Bloomingdale, when a grand prize was in my grasp and I muffed it. Well, that's the fate of many fishermen and I am no exception. However, it is better to have lost than not to have had that thrill at all.

As we watched the sun set on Bloomingdale Pond my eyes were set on the spot near the protruding log. Under that part of the

"So You Think You've Seen Everything"

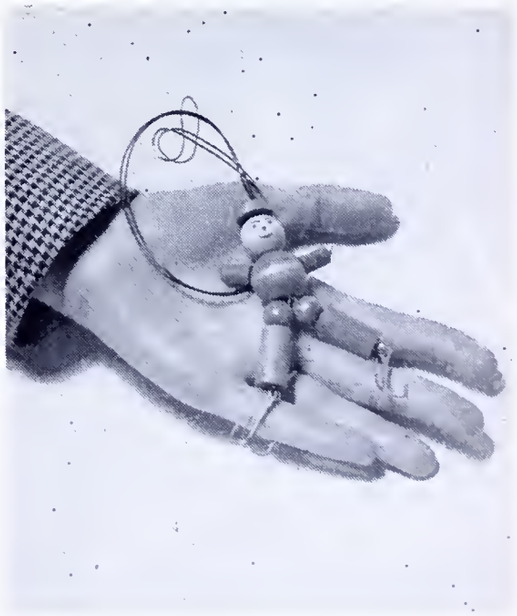
By Don Shiner

Each year a greater variety of lures are created for the sole purpose of deceiving game fish. However, a lure found in Lake Nuangola (Luzerne County, Pa.) undoubtedly tops the list as the latest trend in angling.

The odd looking lure was found snarled among the lily pads. From all indications, the lure wasn't lost for any great length of time, as the treble hooks dangling from each leg were shiny-new.

Upon retrieving the lure and observing it closely, it was unmistakably an exact imitation of a miniature man. The legs, arms and head were jointed and wobbled frantically when retrieved, giving the impression of a man swimming. The lure was painted bright red with the exception of the face which was white, and had markings designating the position of the eyes, nose and mouth. Topping it all was a small rimless hat.

Probably the theory of such a lure is that bass can at last get even with their long tormenting enemy—the angler—by smashing recklessly at the supposedly miniature man. Viewing it in this light, there is a slim possibility this odd lure may even be successful. Many a bass has been fooled by less.



water was Old Grand Dad waiting for another spinner, hook or plug to add to his jaw's collection. Believe me, if this pickerel is caught, somebody will be sad.

Yes, this pond is small but quite deep and below the surface there's plenty of fighting fury. Try it!

Indian Lake

This is a strictly private lake and only with a permit can one enter the grounds on which it is situated. I decided to write it up because many of my friends who have cottages there, are ardent anglers, who have good fishing right in their own back yards. Indian Lake is among the smallest lakes which I have fished at in a long time. It is stocked by the cottagers who have formed an association and they have done a good job of replenishing the various species of fish that the lake yields yearly to home owners and their friends. The lake is narrow and not very long. Very few boats are available to the angler, unless he owns his own or gets his friends to loan him one. However, there are a number of fine docks extending into the water from which one can fish.

This lake is about twenty-five miles from Wilkes-Barre, Pa., and not far from Bear Creek Village. It is a beautiful lake with sumptuous cottages, especially on the right of the lake as you enter this little colony. On the left of the lake there aren't many cottages and heavy forests bank that side of it. Above the cottages on the right there is heavy woodland. For a summer of rest and peace this is the place! Lots maybe bought on some fine remaining sites and building is booming along the lake front. When the roses are in bloom in the summer at this lake, you can appreciate the beauty by walking past the gardens which are well tended to. Some cottages are almost completely entwined in rambling roses. Take your color camera with you if you ever get permission to visit this grand summer resort.

From the stand point of the angler, the fish are not too plentiful, but there are nice Calico bass and pickerel in its green waters. Perch and the sunfish predominate with a fine bass being caught occasionally. Like in many lakes, the catfish are small. The water is quite deep in places and one may troll with some success. This is not a public lake, but a pleasant one to see.

A Prize Winner for Sure

One of the largest catfish ever caught in the area was reported by a Columbia angler recently.

Frank Kissinger, was the lucky fisherman as he brought a 19 pound blue catfish to net while fishing in the Susquehanna River at Creswell. He used a live minnow to catch the huge specimen.

For last year's heaviest catfish in the Safe Harbor Fishing contest was a mere minnow compared to Kissinger's catch. The winner was an 8.3 pound "cat" caught by, oddly enough, Frank Kissinger.

There are two kinds of women: those that men look up to and those that they look around to see.

Some people dust off their religion only on Sundays, while others use it any time they think they can make a dollar out of it.

Advantages of Propeller Change

All too many false theories exist today concerning the role of the propeller in boating. Although many enthusiasts realize that the best performance of any boat and motor combination is achieved only by the use of the correct propeller, relatively few understand the basic principles underlying propeller action. Consequently, propellers are often wrongly substituted on a motor and the best performance is seldom realized. Unless basic principles are understood, substitution should not be considered.

As any outboard motor comes equipped with a propeller that is scientifically designed to give excellent performance when matched with the class of boats intended, rule number one is that propellers should never be substituted unless the motor is changed to a much heavier or lighter boat. If change is required, basic principles should be kept in mind.

A propeller does a certain amount of work in a specific time. This work is accomplished by traveling through the water a number of inches each time it revolves once. Just how much work it will do depends on the blade twist, or pitch.

A propeller works similarly to a wood screw, the twist of the blades corresponding to the threads of the screw, but instead of turning through wood, it turns through water. Just as the fine threaded screw will be much easier to turn through wood than the coarse screw, since less work is done on each turn, so, too, a propeller with a slight twist to the blades will turn through water easier than one with considerable blade twist.

The propeller is a distinct influence on the number of rpm's the motor is capable of producing with a particular load. In plain language, this means that the propeller should enable a motor which operates best at 4,000 rpm's to turn at that sp. A motor turning over faster than it is intended may actually be turning so st that the horsepower generated is less t that at which the motor is rated. If é propeller is so large that it does not pe it the motor to turn over at the rated sp, it cannot turn out the horsepower it is designed to produce. Outboard motors e quite flexible, however, and may t several rpm's faster or slower with no app ciable difference in the horsepower ge rated. For this reason, reputable manu turers strongly advise boaters' to keep t motors equipped with the propeller iss if the majority of their boating is done v properly matched boats. Standard p pellers allow a long margin either way, d can be used satisfactorily on boats that e considerably larger or smaller than stand

When a motor is matched to the k of boat intended, and a lower pitched p peller is substituted, less work will be d by the motor, causing it to turn over c siderably more rpm than it should d efficiency will be sacrificed. Speed may e obtained, but at a sacrifice of the mot by letting it turn over many more ti s per minute than it is made to do. Thi is one reason that reputable manufactu s designate the correct rpm of any motor n sales literature and advertising.

Substitution of a higher pitched prope r will give the motor more work to do. It will turn over less r.p.m. than it was signed to do, maximum horsepower will t be achieved, and performance will be t down.

However, when a large motor is pla d on a boat lighter than the motor's des n calls for, the motor will be able to t the propeller too easily and the rpm ll mount up considerably, causing the m to lose efficiency and possibly cause m chanical failure or, at the least, mater ally lessen motor life. Substitution is the fore desirable. A higher pitched prope r should be substituted to bring the rpm d n to the correct amount.

Generally, it is seldom necessary to cha e blades on small motors, since the majo y of boats on which a small motor is u d varies little in size or weight.

Phoenixville Daily Rep. Photo

Al Zelger of Phoenixville, R. D. 2, displays the 21½", 4 lb. 12 oz. largemouth black bass which he caught in Pickering Creek near Williams Corner. Zelger used a minnow as bait.

For the Beginner

If you aren't quite sure how to fish, h e are five cardinal suggestions which will pr e beneficial:

1. Obtain as much information as u can relative to the water you are going o fish, the species of fish, location of b s, weed beds, deep water, shallows and bott n types.
2. Know your fish, their habits and fe ing characteristics in the water where u are going to fish.
3. Fish for one species of fish and rig y r tackle accordingly.
4. Select bait or lures on the basis of w t is giving the best results.
5. Give the fish credit for having the stinct of self-preservation. Don't undere mate their intelligence. You can be s e that a bass didn't get to be a ten poun r by acting like a darn fool all his life.

ll Outdoors

B Johnny Mock

GROUP of fishermen recently were seated comfortably before a hge fireplace in Northern Ontario.

One by one they had drifted from th supper table to bask in the warm gw of the burning logs, literally puring themselves into the rustic rkers and chairs.

The day had been one of those where sne were successful, others not so ftunate. The fishing calendars foretd good fishing, but other factors ups the predictions. Lake trout, walleed pike and great northern pike vre the quarry brought in.

Smoke from pipes, cigars and cigaree es drifted slowly toward the rafters i the ceiling. Not one word was soken, the anglers content to recline lsurely while they communed with dme nicotine and reminisced of the dy's activities.

"Gosh, if I had only put on a new le instead of using that old rotted one fm last year!"

"Why did I ever forget the landing nt."

"That guide of mine should have tken me where Bill's guide took him."

"Bet I would have done a lot better i I had a couple of good frogs."

"If them Pirates lose another I'll pt in all my time fishing."

"Wonder what the kids are doing?"

"Hope I can get up here for the bass sason."

Were one a mind-reader he could lve read such thoughts as they ramled through the minds of those gazing the flames leaping from one log to nother.

Eventually one of the party tossed s cigarette into the fireplace, then oke the silence.

"The pickerel we catch here cerinly look a lot like the walleyed ke we get in Minnesota."

"It is the very same fish," he was lvised.

Chimed in another:

"What about the dore of Quebec?"

"It's the same species you find in ntario or Minnesota," was the reply.

One by one others joined in the disssion, giving names they've come cross in various parts of the country, l applying to the same fish.

At Pymatuning Reservoir it is called y its most common name, walleyed ike. Yet less than 10 miles away, at onneaut Lake, it is known as the almon and that also goes for French reek.

At Erie, where it is a commercial sh, it is termed the yellow pike. In he central part of the state the fisherhen call it Susquehanna salmon.

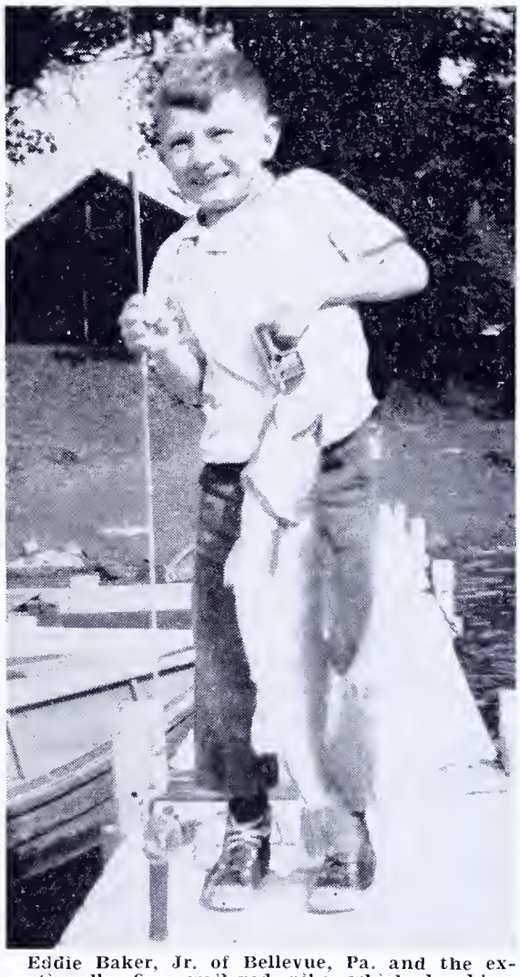
As the discussion continued, more of its colloquial names were uncovered, including blue pike, dory, deadeye, marble-eye, white-eye and glass-eye (because of its opaque appearance), gray pike, jack, sauger (which is a close relative), walleyed perch, yellow pickerel, green pike, jackfish, yellow pike-perch, jack salmon, golden pike and ogah, the name applied to it by the Red Lake Indians of Northern Ontario.

No doubt, there are others.

Yet the pike-perch (which is the correct name), is a rank amateur when compared with the crappie. A list of its nicknames totals 57. Among them are such non-descriptive terms as lamplighter, John Demon, sac-a-lait, papermouth, razorback, bachelor, Campbellite, gold ring, chinquapin, mill pond flyer, banklick, roach, tinmouth, new light and goggle-eye.

"But no matter what you call it, it's still the crappie," interrupted one of the party.

From the walleye, the discussion drifted to the pike, a species whose popularity is a matter of location. In the European countries and in certain sections of our own, it constitutes a prize capture. In other territories, particularly among the more isolated parts of Canada, it is condemned for its cannibalistic and greedy appetite.



Eddie Baker, Jr. of Bellevue, Pa. and the exceptionally fine walleyed pike which he himself caught on July 1 near Tidioute. The fish measured 29½" and weighed 6 lbs. Accompanying Eddie and his father was Andrew Stein of Pittsburgh.

Among bait rod casters, it is a great favorite, its powerful struggles making it a very worthy opponent.

Again the species is called all kinds of names—some of them not printable. Most common are grass pike, jack, snake, pickerel, northerner, lake pickerel, jackfish, common pike, giant pickerel and great northern pike.

When someone brought up the subject of the great age the pike species allegedly attains, "Hank" Heineman of the Moredolphton Lodge, where the group was staying, came forward with the following information:

"It has been established that the oldest pike ever caught was taken at Kaiserlautern, near Manneheim, Germany. The skeleton was for many years kept in a museum of that town. This famous pike reached a length of 20 feet and weighed nearly 975 pounds.

"Moreover, it was revealed that a gilded ring which was found in the monster bore the following inscription, engraved in German: 'I am the first fish which has been thrown into this water by the hands of Emperor Frederick, II'. Consequently, when caught, this Methuselah was 235 years of age."

Of course, none could dispute "Hank's" story, even though it sounded very much like Baron Munchausen.

While recognized as a ferocious and cannibalistic fish, the pike's flesh is considered by those who know as being of supreme delicacy, one with which a chef can work magic.

Lake trout, the third species with which the group had sport, were taken only in a small number due to most of the fishermen being without the necessary tackle.

Those who did have metal line were successful and supplied a good portion of the supply which was necessary to feed the hungry fishermen at a shore dinner during the visit to Birch Island.

The "laker" also carries with it a number of localized names such as Mackinaw trout, tongue, salmon trout, landlocked salmon, Great Lakes trout, forktail trout, longue, namaycush trout and white-spotted trout.

Incidentally, the world's records for the three species are:

Walleyed pike—22 pounds and four ounces, caught in the Niagara River at Fort Erie, Ont., May 26, 1943, by Patrick E. Noon.

Great northern pike—46 pounds and two ounces, taken by Peter Dubuc at Sacandaga Reservoir, N. Y., Sept. 15, 1940.

Lake trout—63 pounds, caught at Lake Athapapuskow, Manitoba, Aug. 23, 1930, by Miss L. L. Hays.

The man who imagines himself a budding genius is often just a blooming nuisance.

Tips on Light Weight Bait Casting Reels

By Clare Bryan

During the past year more fishing licenses were sold than at any time in our history. The majority being sold to anglers interested in the sporty way of taking game fish. Among this vast number, the bait casters lead the field. In fact, it is safe to say, more fresh water sport fishermen use bait casting methods than all other methods combined.

With this ever growing number of bait casters we also have a definite trend toward lighter equipment. As time marches on, this trend will become more pronounced with the increase of fishermen and the decline of our fish. The time has passed when we can get our limit on an equal number of casts. Today, most fishermen make a hundred or more casts for each fish caught. This wasted energy we might say, stimulates the need for effortless casting. When we speak of effortless casting, we mean casting that is a pleasure in place of a chore.

Not so long ago practically all fishing reels were equipped with spools of German silver or nickel plated brass. The weight of the spools made it practically impossible to cast lures under ⅝ of an ounce. The power we needed to start the spools during the cast meant the use of rather heavy rods. Lures on the average were around ¾ of an ounce in weight. This equipment along with an 18 pound line made casting difficult for all except an expert. Even our best casters were troubled with back-lashes as well as fatigue. In addition to these slow starting spools we were further handicapped by having no arbors to take the place of backing line. Beginners too often would attempt casting with only fifty yards of line on the spool, whereas, no less than 35 to 40 yards of line was needed for a core. While the present day anglers are interested in modern equipment, they should know the back ground of bait casting. Otherwise, they may make many mistakes in purchasing balanced tackle.

Manufacturers have for a number of years been burning midnight oil trying to design built-in devices for eliminating back-lashes. Even today we have a great number on the market. Regardless of how well they are designed or made, they will not take the place of a delicate thumb. Many reels are equipped with brakes of various types. Whether the load is placed against the spool flange or the end of the shaft, it still requires considerable power to start them in motion. While reels of this type may give the caster confidence when first learning, they are far from ideal when casting the small plastic lures which are the most productive. When it takes power to start the spool we have inertia, and when we have inertia, we are apt to have back-lashes. Therefore, the best way to eliminate many of the back-lashes, is to eliminate the inertia of the spool. This has been done in the new light weight reels of today.

While tournament casting and tournament reels are far from fishing and fishing equipment, tournament casters have been the spearhead in the design of our present day reels for light fishing and Skish casting. That effortless casting of the tournament caster has been brought to the fisherman through changing the material of the spool. For a number of years tournament reels have been equipped with aluminum spools for better casting. With these reels and light rods a cast of 80 feet can be made with just a flick of the wrist. No swinging of the rod or hooking of the gunwhales on the back cast. Just a mere flip of the rod tip will start the reel in motion.

Among the bait casting reels on the market we have more than 100 to choose from, yet only a very few can be classed as light weight reels. By light weight reels we mean those made with an aluminum frame as well as with an aluminum spool. These reels weigh no more than four or five ounces. All have a plastic arbor or large hub built into the spool. The purpose of the plastic arbor or large hub is to eliminate the need for much filler or backing line. Beginners are more apt to fill their spools to the proper diameter and the overall weight will be less.

All good reels today have aluminum or aluminum alloy spools. Yet many require considerable effort on the part of the caster due to heavy gears or cranks which must be started in motion through the power of the rod. Not all reels have light spools even though they are made of aluminum. The thickness of the spool flange, the weight of the hub and other factors determine whether or not the reel will start easy. Reels that start with little effort, yet have what old timers call a pull, are what all anglers should look for. The nearest approach to the ultimate is the light weight reels used by thousands of fishermen for Skish casting and bass fishing. Once an angler is accustomed to these easier starting reels, he will never go back to the slower reels except for the heaviest type of fishing.

During the past three years Skish target casting has grown rapidly. Much of this growth can be credited to fishermen who are interested in learning better casting as an to better fishing. Due to a lack of fish tod we must be a better caster, and to be a b ter caster we must have better equipme Through Skish many fishermen have lean the finer points of casting as well as the te nicalities involved in buying proper equ ment. Through the Skishermen many angl have learned the value of these faster sta ing easier controlled reels. To compete w these target casters one must have equ ment that rates on a par with the b When we refer to the best we do not me the highest priced. The best reels m today for bass fishing and target cast under the rules of the National Skish Bo are far from what we may call expensi In fact, the price range of the light wei reels falls in the lower brackets.

Fishermen and Skishermen wishing make long casts can do so with these li reels and do it far better than with any ot type. Even the youngsters using these re have made casts beyond a measured 200 f mark. Not with what may be called tournament line, but with one suitable actual fishing. The National tournam record for men being 232 feet, more th three times the distance needed for gene fishing. Yet this record was made with stock reel that is available at a moder price.—*Tackle Topics.*

Definition of a banker: A man who le you an umbrella when the sun is shini asks for it back at the first sprinkle of ra and doesn't own the umbrella in the fi place.

Some folks have no respect for age unl it's bottled.

Can You Name It?

THE HEMLOCK

Whether or Not Depends On Weather or No

No one, except some of these dry ice experts, can do anything about the weather, but if a camper or picnicker has some idea of what it will be like on the morrow he can prepare for the worst . . . or best.

Luis M. Henderson, noted artist and outdoorsman, has an interesting chapter on weather signs in his new book, *The Outdoor Guide.* These signs are not infallible, but they are not based on superstition and warrant the attention of any one who plans to go fishing or camping.

Regarding weather signs, Lu says: "If the smoke from your campfire rises highly in a long, spiral thread, there's good weather ahead, but if it rises sluggishly for a short distance, drifts off slowly and settles, then break out the rain gear.

"If all the trees (particularly the maples) are showing the undersides of their leaves, look for rain within 24 hours.

"Heavy dew on the grass pressages fair weather, lack of it is likely to mean rain.

"Red at night, sailor's delight . . . red in the morning, sailors take warning! The same rule applies to rainbows in reverse. A rainbow in the morning bodes no good, but a rainbow in the evening portends a fair tomorrow.

"When the moon wears a halo, or has ring around it, look for rain. The sa goes for a red moon. But when the mo is a clear, bright 'white' you are pretty s in planning a trip next day.

"When the sky is like black velvet and t stars seem especially brilliant and mo numerous than usual, look for rain or sn the next day.

"Big white, puffy clouds that look li balls of cotton mean fair weather, if th stay scattered, but when they gather in mass over one spot, such as a mountain wooded hill, look out!

"Cirrus clouds, or 'Mare's tails,' those lit wispy affairs high up, are a bad sign. they are drifting rapidly across the sk there is likely to be a storm within the ne 24 hours.

"Clouds that move at different levels a in opposite directions are a warning of u pleasant weather ahead.

"If the clouds float high about sundo and are tinged with red, prepare for hi wind to follow.

"When you see crows pitching and tu bling about in their flight, take up on t guy ropes . . . there's a gale in the making

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

r. Vaux Notifies Operators

All anthracite breaker operators in the chuylkill River basin have been notified y the Sanitary Water Board that they must ake provision, according to the terms of eir permits, to prevent any discharge of lt to the streams from their operations hich might result from any situation, inuding breakdown of equipment used in eir desilting systems. The letter, signed y Dr. Norris W. Vaux, State Health Secreary and Board Chairman, is occasioned by e vast improvement which has resulted in e water of the Schuylkill River and its ributaries under the Clean Streams procam.

Desilting systems have been in operation t all of the collieries for at least six months reventing an estimated two million tons of lt and fine sizes of coal from going to the reams annually. Since that accomplishent the waters have improved to the point here comparatively small discharge of silt immediately noticeable. The dark color of e water which is seen in some areas is aused by the accumulation of silt on the iver bed which is being removed by the redging operations of the Department of 'orests and Waters.

The operators have been warned that "any ischarge of polluting material or industrial vaste by reason of structural or mechanical ailure, leakage, or otherwise, violates the onditions of the permit issued to you by the Board." The letter further states that "it is ot, of course, the desire of the Board to nter prosecution against any operator but he Board's stream improvement program as now progressed to the point where dischargeof improperly treated waste even hough due to mechanical or other failures, re serious and must be avoided by proper reventive and maintenance measures."

Permits Issued for Construction

Sewerage permits with construction authorization have been issued to additional municipalities institutions and industries by the Sanitary Water Board.

The latest permits are to Bloomsburg, intercepting sewers, pumping station and sewage treatment works; orders to construct by June 1, 1952 was previously ordered; Armstrong Cork Co., Lancaster, force main and sewer; Matamoras, Pike Co., sewers and sewage treatment works; Ambler, Montgomery Co., sewers; Texas Eastern Transmission Corp., North Union Township, Fayette Co., sewage treatment works; Middletown Drainage Co., Middletown, sewers, orders to construct a sewage treatment works by June 1, 1952 was previously issued; Homestead, Allegheny Co., sewers; Quincy Orphanage and Home, Quincy Township, Franklin Co., sewage treatment works; Throop, Lackawanna Co., sewers; Chattenham and Springfield Townships, Montgomery Co., sewers; Maryknoll Preparatory College, Clarks Summit, Lackawanna Co., sewage treatment works.

Treatment Works Cost $800,000

Scott Paper Company, world's leading manufacturer of toilet tissues and paper towels, has spent approximately $800,000 to date on waste treatment installations at its Chester mill. The installations are proving an important factor in the great advance being made in the clean up of the lower Delaware River.

The Scott mill operates around the clock seven days a week and produces 10 million gallons of waste waters in each 24-hour period. All of those waters, containing pulp fibers not recovered by the paper machine save-alls and other similar equipment normally found in many paper mills, were formerly discharged directly from the mill to the Delaware River. To reduce the amount of pulp fibers in its effluents and thereby abate the resulting pollution of the river, the company has installed a battery of four Waco filters which are reclaiming 95 per cent of the pulp fibers from the waste waters filtered. The fibers recovered, together with the pulp used as the filtering medium, are returned to the mill and reutilized in the papermaking process.

The company is currently erecting another new building at its Chester plant in which its tenth papermaking machine will be installed at an ultimate cost of about $4,000,000.

Sewage Bond Issues Approved

Ellwood City, Lawrence County, approved a bond issue for $175,000 at the recent election to provide funds for the enlargement and improvement of the existing sewage treatment works to increase the capacity. In addition to that sum there is available $65,000 remaining from a bond issue of $100,000 made in 1941. Scarcity of labor and material as a result of the war did not permit all the work planned to be done at that time.

The municipal council of Grove City, Mercer County has also authorized the issuance of a bond issue of $60,000 to build additions to the sewage treatment plant which is one providing complete treatment.

Norristown voters authorized the issuance of a bond issue of $1,350,000 for the construction of additions to the sewage treatment works to provide a higher degree of treatment in compliance with orders from the Sanitary Water Board.

Permits Denied Operators

Because their operations would cause discharge of acid mine waters to clean streams, the Sanitary Water Board has denied operating permits to nine additional coal mining operators, all in the bituminous fields.

Dr. Norris W. Vaux, State Secretary of Health and Chairman of the Board has also ordered 10 more operators to cease their operations at once, it having been reported by the Bureau of Engineering that they are operating without permits from the Board, which is in violation of the law.

Treatment Rules Established

Rules and regulations governing the treatment of wastes from pulp and paper mills have been adopted by the Sanitary Water Board as another step in advancing the Clean Streams program. The compilations were made after exhaustive studies and analyses of the several types of wastes, volumes, polluting strength and the methods of treatment. The paper mills cooperated in providing the necessary data and in making the studies. The rules and regulations were prepared after many conferences with a committee from the pulp and paper manufacturers.

Rules and regulations have now been adopted for the treatment of wastes of five different types of industries—milk, oil wells, gas wells, steel mill pickling liquors and the pulp and paper industry.

Practically all the paper mills in this State are treating their wastes to some degree and many of them are now engaged in developing and installing systems for higher degrees of treatment. This is also true in the cases of the other types of industries.

Additional New Sewage Works

Mifflinburg, Union Co., has joined the increasing number of municipalities in Pennsylvania which are taking steps to provide sewage treatment under the Clean Streams program. The Municipal Authority of that borough has awarded a contract for $81,649.20 for the construction of a sewage treatment works, and another contract for $121,537.30 for the construction of intercepting sewers and additions to the existing sewer system. Mifflinburg is located along Buffalo Creek, tributary of the Susquehanna River.

A new sewage treatment works was placed in operation May 1 in Dillsburg, York Co., which with the building of the sewers, was constructed at a cost of $160,000.

The sewage treatment works at Torrance State Hospital, Derry Township, Westmoreland Co., has also been completed. Additions were built to the existing works to provide increased efficiency at a cost of $168,770.

Mine Operators Violate Permits

Nine coal mining operations have been reported to the Sanitary Water Board by the Bureau of Engineering, State Department of Health, to be operating their mines, for which the Board issued permits, in violation of conditions in those permits. The operators have been ordered to correct the violations at once. They have also been notified that if they fail to comply with that directive, further steps will be taken which may result in revocation of the permit.

In each of the cases it is claimed that acid mine waters are being discharged to the streams which is a violation of a condition under which the permit was issued.

An Object Familiar to Fishermen . . .

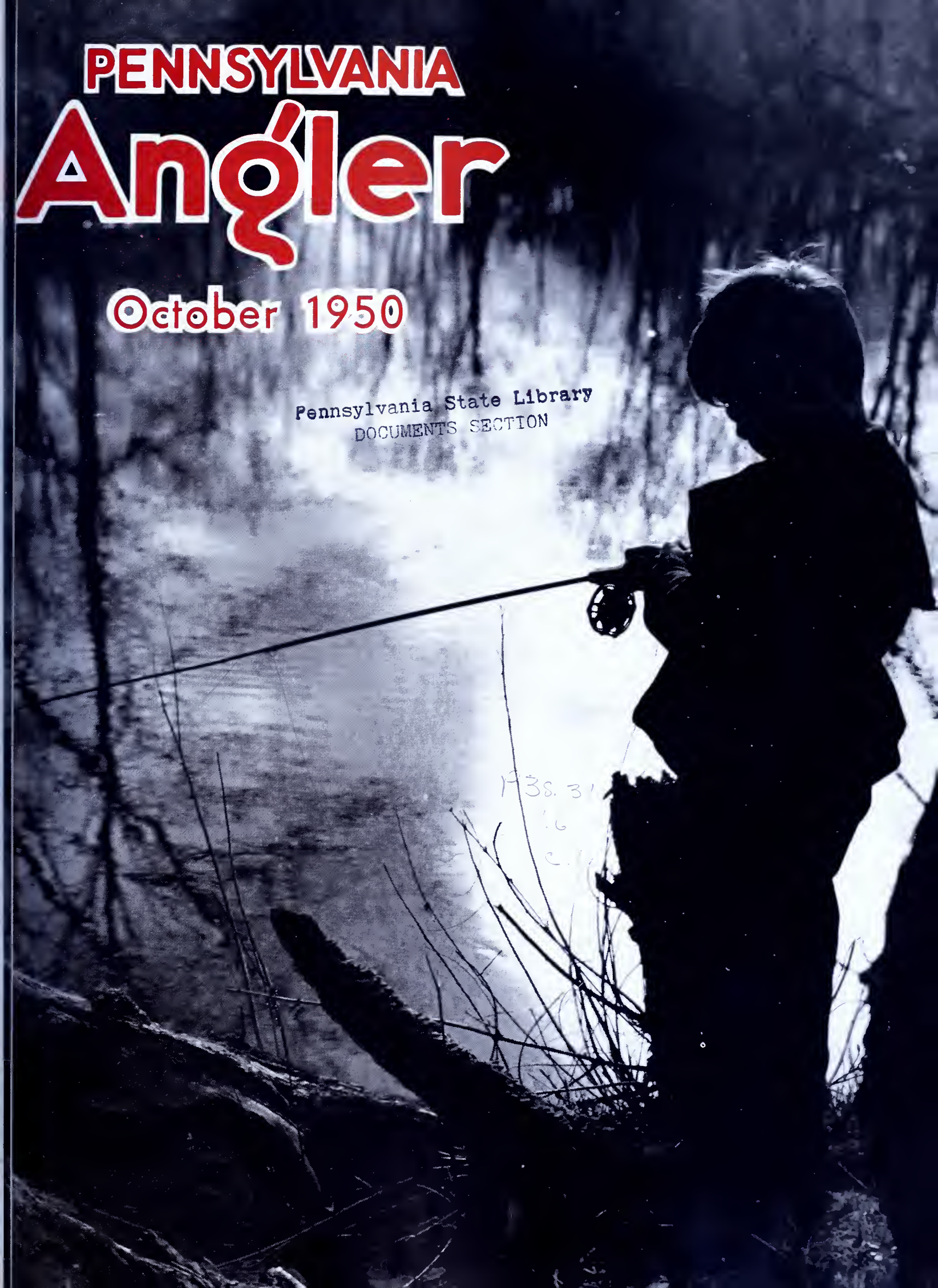
Can You Name It?

NATIVE TO THE STREAMS AND HILLS OF PENNSYLVANIA, PROVIDES A FINE LUMBER YIELD, BELONGS TO THE SOFTER WOODS, HAS BEEN ADOPTED AS THE STATE'S OFFICIAL TREE. NAME IT.

(See page 24 for answer)

PENNSYLVANIA Angler

October 1950



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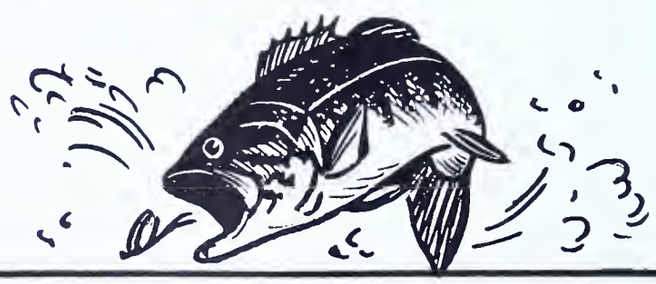

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
FISH COMMISSION
HARRISBURG, PA.

The Angler

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The Cover . . .

Study in Lights and Shadows of Youthful Patience.

Observations of Interest on Clean Streams

"Stream pollution abatement is getting to be big business. It hits the headlines. Sportsmen know of it; even housewives hear of it. It gives headaches and opportunities to industrial executives. It challenges consulting engineers and chemists. It stirs the interest of contractors. It keeps regulatory officials awake at night. It's creeping into court records. In short, it is a big field to conquer, with many interests involved.

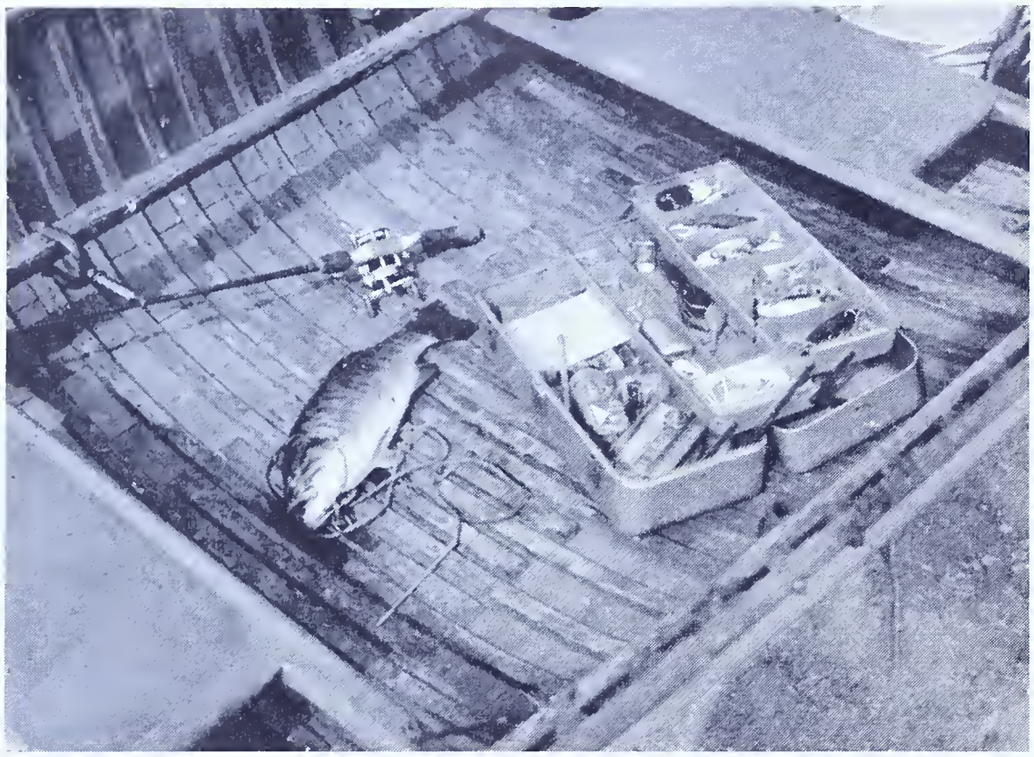
"Speak of pollution abatement—and almost everyone will agree that it is highly desirable. But there is a long stretch between desirability and accomplishment. The crucial questions of the day are: How much and how fast? If you ask the experts, you will get a variety of answers depending on the prime interest of the individual questioned.

"Answers to these questions just cannot be picked out of a hat. They must be based on careful study and investigation of each waste problem. They must be attuned to the financial capacity of industry. Big companies can bear the extra load much easier than small ones. The answers must be related to the economic value of the industry to its regions. For example, are jobs more important than pure streams? Also, the answers must look to the future. Processing changes can make an expensive treatment plant totally inadequate. And finally, the answers must be in the public interest.

"It all adds up to this: We must have cleaner streams but the solution is not easy or quick. It calls for high-caliber teamwork. Government officials and industry's leaders have a big opportunity for effective, result-getting cooperation: In research on wastes and treatment methods: in selecting the most feasible treatment processes: in working out satisfactory procedures for financing disposal plants: and in picking the best sites for new industries. The job can be done cheaper and faster with all skills in harness."

Conservation Pledge

I GIVE MY PLEDGE AS AN AMERICAN TO SAVE AND FAITHFULLY TO DEFEND FROM WASTE THE NATURAL RESOURCES OF MY COUNTRY — ITS SOIL AND MINERALS, ITS FORESTS, WATERS, AND WILDLIFE



"Well, there she is," I chortled, as I flipped the 16 incher into the boat and strung it.

Better Than Canada

By Thad A. Bukowski

I applied strong strokes to the oars. Our boat moved rapidly, approaching the shallow waters of the island located in the center of the lake.

The air smelled fresh. A slight west wind was blowing, chopping the water in multifarious little waves. The sun tried to peek from behind frowning clouds but couldn't make it quite often enough. Periodically, it sprinkled a bit of rain. It was a perfect day for fishing.

I sniffed the air again, resting my hands against the oars as the boat's momentum moved it forward, trolling lines trailing behind.

It was after nine o'clock in the morning, quite late to be venturing forth after some bass, but we could be excused upon the fact that the little adventure to be, had been planned in a very haphazard and hurried manner.

My brother had just returned from an unsuccessful trip to the Trent River in Canada, catching only two smallmouth while there. His remarks were rather caustic about the whole affair and he felt like we sometimes, all of us feel, when we think of giving up fishing. And that's feeling awfully low.

We were sitting on the back porch when I made the inquiry. "So they weren't biting, eh?"

"No, not really, it was awful."

"What did you use for bait?"

"Everything. Plugs, minnows, crabs, crawlers, hellgrammites, etc."

"What did you get the two on?"

"Nightcrawlers" was his reply. "It was funny. I took up some hellgramites and met a fellow who brought up the crawlers. He caught his two on hellgramites and I got mine on his crawlers. And we couldn't get a hit when we used our own bait."

"But it wasn't a good trip?"

"No. Lousy, in fact. Made me feel like wanting to quit fishing."

"You're kidding," I said, and added, "Let's head for the lake tomorrow morning and see if we can change your luck."

He knew that I was speaking of one of the lakes at Bessemer, Pa., located near the Ohio border. It had its share of bass, large cats, some walleye, perch, panfish—a whole range of freshwater fish. But he wasn't too particularly interested in my request, and I had to convince him. He finally agreed to go directly from the shop if I picked him up at the watchman's gate at quitting time.

I picked him up as we had intended and together we putt-putted towards the lake in our fishing car owned by another fishing pal, Bill Wallace, and affectionately called Gertrude. Our boat bounced slightly above our heads as we rolled along.

I wanted to prove to my brother that we could catch more bass in the local lake than he'd gotten in Canada. And this time the dice were loaded for me. After all, he'd only gotten the two up in the north country, and it wasn't too hard to beat a deuce spot, any way yo looked at it.

We headed for a submerged sug loaf in the lake where the water wa less than eight feet deep. Approach ing we looked down into the water t see whether we were over the sha lower bar and when we reached it m brother called out, "Okay, stop row ing." I complied and centered the boa as best I could over the chosen spot.

"Heave your anchor over," m brother impatiently whispered as ne anticipation already was putting h unsuccessful Canadian venture out o his mind, at least far to the back of i As our heavy anchor swirled down in to the waters our boat turned with th wind till it faced directly into it. W dropped another anchor to the rear o the boat and began to fish.

The submerged island over whic we were fishing had previously bee an outcropping in the center of th lake. The water, however, had rise of recent years, and now it made a underwater feeding range for bass.

"Believe I'll use a crab," my brothe murmured.

"Think I'll plug just a short while, I mentioned in answer.

I snapped a leadered plug onto m line and my brother Stan swung hi glass fly rod in a sidewise motion, send ing out a soft shelled crab on a circus like airplane journey. It dropped int the water with an almost imperceptibl pat and in turn I sent my plug out i the opposite direction from the boa Before I could reel in, my brother wa giving out line—fast. The fish too snappilly—almost too well, so that h had to hook it quickly. There was

We picked up our boat, a light Pen Yan a Bill Wallace's home, loaded it on his fishin jaloppy, affectionately called Gertrude, an headed for the lake.

The 11 inch bass splashed near the boat and was quickly landed. Since it wasn't hooked badly, we returned it to the dark green waters of the lake.

ow s-w-o-o-s-sh as his long pole bent nd the slack line straightened in the ater. I could see by the expression anticipation and glee on his face at he had hooked a nice fish.

"Whoops! I got one!" he yelled. "A ce one, too," he added as if to further ualify his first report.

I dropped my pole and grabbed the nding net, meanwhile giving out the dvice that every assisting angler gives such a time.

"Hold him tight! Play him! Take it asy!"

A shivering splattering splash out the water quickly made us realize at the bass was of nice size. The fly ole bent fiercely as the fish struggled or its freedom. It scrapped wildly, iving deep in the lapping waters and nally gasped near the boat. I reached ver the side and scooped it up in the nding net.

"Well, there she is," I chortled as e watched the 16 incher flop in the ottom of the boat. "Sure is a nice ne."

"Gimme another crab," was the only eply I got as Stan admiringly ogled e bass. We strung it and I went ack to my plugging.

I hadn't made more than a couple of asts when my brother struck again nd hooked another bass. It splashed ear the boat and was quickly landed is time as it was less than a foot ng. Since it wasn't hooked badly e returned it to the dark green waters nd watched as it shot like a bolt from e boat when released.

I unsnapped my plug. When the ass have proven that they are aching for softshells any sensible fisherman gives the customer his choice.

"Lookout for me," I called. "I'm going after them too!"

I whirled the hooked crab above my head and set it about twenty feet out from the boat. I was almost immediately welcomed with a strike.

"Hey, a run," I cautioned as I stripped line off my reel, making sure to observe in what direction the bass was taking the bait. Finally I stretched out my casting rod and set the hook. There was a wild leap a distance out from the boat as the bronzeback tried to get rid of the stinging crawfish.

"My turn," I yelped as I held line taut, playing it, as the fish made the usual surface splash customary of its clan. Finally, the bass was also in the boat.

For fifteen minutes fishing this was astonishing,—and more than favorably compared with anything in Canada.

Within the next hour we had at least ten bass, throwing back all but another each which were severely hooked. My brother was all smiles as I looked at him and asked, "Is this as good as Canada?"

"Better," was his only reply.

Since the morning was going along so perfectly, I even got cocky and made a small wager. "Bet I can get one on a plug," I joked.

"I doubt it," Stan said. It's late."

"But they're hitting," I replied.

"Okay, have it your own way," Stan remarked, as I sent a golden speckled, black, wobbler, carelesly into the lake.

A large bass whacked it on that first cast. It stung me and I was numb at the unexpected impact. The sharp surprise I registered grew as the bass flicked plug and itself wildly above the waters trying to separate itself from the magnetlike wood that held it fast. But shortly it was in the boat and again let loose. I just couldn't keep a frisky bass that won a bet for me so easily.

Two more strikes on spoons were missed as our successful venture progressed and the day neared noon. It was one of those few unusual days in the year when all elements seem to combine to make the fishing superb. The wind wafted faint gusts from the west, rippling the magic waters, and the sun played peek-aboo with raindrops. The weather was cozy mild, and the undulating waves rocked the boat gently into a symphony of pleasure.

When the bass stopped hitting we would move our crabs a foot or two by drawing in line. We soon learned that the bass would snap up the crabs more often as they wiggled along the pebbly bottom. Since the voracious bass is known to prefer live bait or an imitation thereof, we weren't too particularly surprised by this, and have reminded ourselves to fish in this manner on later trips, a thought which proved eminently successful. Each time the bass hit, another suspenseful drama would take place with serpentine line winding out on the surface of the water, eager fisherman tensing for the strike.

That morning we learned a number of things. We learned that a smallmouth would hit a crab unmercifully if feeding, when the crab was periodically moved along the bottom; we learned later in the day upon gutting our fish that the bass weren't particular about how hard or soft a crab was when they were on the feed, as we found the biggest and hardest crowdads we'd ever seen, in their stomachs; we learned that sixteen smallmouths caught with ten released after catching, made us anticipate some more wonderful fishing in the same lake in the future; and lastly, we learned that even mighty Canada sometimes has to take a backseat to a local Pennsylvania lake.

Cigarettes Measure Fish

You can use cigarettes to measure your fish if you are ever in doubt as to whether your catch is legal and you are out on the lake far from camp without a rule. The length of any standard cigarette is $2\frac{3}{4}$ inches and that of the new longies $3\frac{1}{4}$ inches. Lay as many cigarettes end to end beside the fish in doubt and add the total. The measurement should be accurate enough to save you a fine in the event the fish was claimed to be too short.

Vegetation and water weeds along the far shore of this pool are favored hiding places for trout and bass. In fact, few fish can be caught anywhere else in this piece of water.

Fishing Streams

By Dick Fortney—Part Three

BOILING rays of the sun drove Jim Sheen and me off a bass creek in Central Pennsylvania one July afternoon some years ago. We were staying for a few days at the farm of an old friend whom we shall call Ed. The stream was pitifully low, and although we knew that it contained plenty of good bass, fishing was out of the question. For us, that is!

Ed just grinned at our complaints of low water and high temperature. He took down from a couple of nails over the front door of his home an old steel rod, to which he had attached a casting reel containing a length of heavy black silk line. On the end of the line was a rusty hook.

Next he went to the watering trough by the barn, dipped half a dozen stonecatfish out of the water, put them in a minnow pail, and walked down to the creek. Jim and I stretched out on a couple of picnic tables and dozed as Ed walked up the stream out of our sight.

Less than an hour later the grizzled farmer returned—with a string of bass that made our eyes pop. There was not a fish in the lot that weighed less than a pound and a half.

Naturally, we began firing questions. Ed summed up his feat for u in very simple, understandable la guage.

"When the creek is as low as it now, and when the sun gets this al fired hot," he said, "the bass go in hiding. You have to get your ba right under their noses, or they won take it no matter how hungry the are. That's all there is to it."

We made Ed talk more than tha

He had fished a shallow pool whic has a bed paved with rocks of a sizes and shapes. The stream bed h been hollowed out under some of the and Ed had observed the bass takir refuge in these shady places of safet

His technique was the essence simplicity—and good, old-fashione horse sense. He selected a rock und which he believed a bass was hidin Then he moved a bit upstream fro it, dropped a bait into the water, ar carefully guided it with the tip of h rod until the slow current of the po carried it under the rock to the fis

"Every time I did that, a fish toc the bait," Ed admitted. "I caught lot that I didn't keep. It didn't tal long, either, and I didn't have to wo very hard."

I've never forgotten that incider It taught me that in all the ramblir course of any brook, creek, or riv there is no better place to fish tha one in which man or nature has place

Nature has strewn the course of this mountain trout stream with rocks of all sizes tha break the flow of the current, create hiding places for fish, and form deep pockets which alway are worth fishing.

me kind of an obstruction where fh can find shelter.

The obstructions in the stream—ey are key fishing spots in the riffles, i the fast currents, in the main body a pool, or in the tails of pools, all which have been discussed in pre-ous articles in this series.

Just as every stream has a character its own, so every stream has ob-ructions of different variety. To ientify all of them would be an ob-ously impossible task.

There are some, however, which are nerally characteristic of all streams, d we may list them and discuss them r that reason. They include boul-rs, rock ledges, fallen trees, sunken gs, deep pockets, gravel bars, and oreline tangles of weeds, roots, and getation.

Boulders of all sizes in the bed of stream are perfect hiding places for ss, trout, and fish of other species. some streams they may be great asses of rock; in others very much aller, yet every one of them offers tural protection to fish.

Some are easy to see. They rear eir heads above the surface of the ater, so they are easy targets for e angler. But there are vastly more the type that lie hidden beneath the rface, so that a fisherman has to be servant to see them.

An obstruction of rock in a riffle swift glide of water will stall the viftly-moving current sufficiently to able fish to maintain their positions ith ease in the vicinity. Some of em, by diverting and concentrating e water at some limited point, will use a deep hole to be gouged in the ed of the stream. This, too, is a aven for fish.

Water in the vicinity of these rock ostructions always is worth fishing refully. Bait or lure may be gotten own under or around a rock—as my rmer friend Ed did in his bass an-ling—or in the case of a rock in a ffle the angler may carefully work the ater immediately above and below e rock—water that is easily spotted ecause of its smooth nature in con-ast to the broken surface of the ater around it.

Many streams—especially those that ow through limestone formations—ontain rock ledges. Often these occur shallow pools, which without them ould probably be barren of fish life. ig bass are particularly fond of hid-g in underwater rock ledges, and e problem of the fisherman is to lure em out if he possibly can.

Incidentally, fish from time to time ave their ledge refuges to feed, even shallow water, and at such times rnish fine sport for the angler who skilled in the use of surface lures.

Fallen trees are another form of stream obstruction which provide cover for fish and excellent targets for fishermen. Their tangled limbs pose a serious hazard to fishing tackle, yet fish are so addicted to ganging up around them that most fishermen will risk loss of leader and lure in an endeavor to get a strike.

The gaunt limb of a fallen tree reaches out above the surface of the water in this pool. Seconds after this picture was taken, the angler caught a large brown trout on a dry fly floated on the swift current that flows at the right of the limb.

Pickerel are great lovers of spots where a tree has fallen into the water. That is because, for one thing, minnows school up in such shelter and are easy prey.

Sunken logs lie on the bottoms of many creeks and rivers in Pennsylvania, rotted relics of the old lumbering days, and these also are great hiding places for fish of all kinds.

Gus Hass, who was my guide on a fishing trip on the French River in Northern Ontario in September of 1949, had a favorite spot for bass on that famous stream. We never fished the area without getting plenty of action. Gus told me there was a great tangle of logs at the bottom of the river at that particular spot. For years, he said, he had been able to count on those logs to attract a good population of bass.

It takes some searching to locate a favorable fishing spot such as this, but any angler who fishes a stream that once was used to float logs will do well to hunt for pools that contain sunken logs.

Deep pockets of water probably are improperly classed as stream obstructions—because they certainly do not interfere with the flow of the water—but at the same time they do have a place in any discussion of fish hiding places.

They are particularly fruitful in riffles and in swift glides. As was pointed out in the discussion of stream riffles, they are areas of comparatively quiet water where fish that are feeding in the riffles can maintain their positions in the water without great physical exertion.

Often it may be impossible to spot these pockets. That is why, in fishing unfamiliar water, it pays to cover every square foot of a riffle or swift run, so that if there are deep pockets the bait or lure will get into them without fail.

Gravel bars attract all kinds of game fish. They are a rich source of the natural forage of trout, bass, and other species, so as a matter of course they are regular feeding grounds.

These, also, may be difficult to locate, since often they are in deep water as well as in shallow, and so they may not be apparent from the surface of the stream.

Finally, we have shoreline tangles of weeds, roots, and vegetation.

Here are perhaps the finest—and the most difficult—fishing spots of all.

I'll never forget the unexpected thrill I got one afternoon while fishing in a small trout brook in Central Pennsylvania. An old birch tree had topped into a rather large pool, and its branches formed a tangled ring around an area of open water about ten feet in diameter. The water was deep and looked extremely trouty.

I was fishing with a Size 18 dry fly, a bivisible Royal Coachman, tied to a leader that tapered to a 4X point.

The fly landed on one of the limbs

(*Turn to Page* 21)

Contest Prize Winners

By William Boyd

MANY of the old tackle-busters who for years obviously have evaded the hooks of anglers fishing in the streams of North-Central Pennsylvania are feeling the barb this season, judging by the results of fishing competition sponsored by the Harders Sporting Goods Store in Williamsport.

During the 1950 season dozens of huge trout were entered in the competition for weekly prizes offered by Harders and now mammoth bass are being brought to the store by successful anglers anxious to share in the prizes given by the sporting goods dealers.

Men, women, and children are included in the list of prize winners. Since the middle of April they have been bringing their prize catches to Harders to be weighed and measured, and at the end of each week those whose fish have been adjudged the largest return for valuable prizes of merchandise.

Never before have the followers of fishing found it possible to determine just how many large fish were caught in a given season by themselves and others. But the lure of valuable prizes has attracted virtually all anglers who landed unusually large fish.

The contest has had really amazing results. Huge brook, brown, and rainbow trout were entered until the end of July and ever since the first of that month big bass have been exhibited.

Sensational catches have been reported and authenticated through the use of a yard stick, weighing scales, and the camera lens.

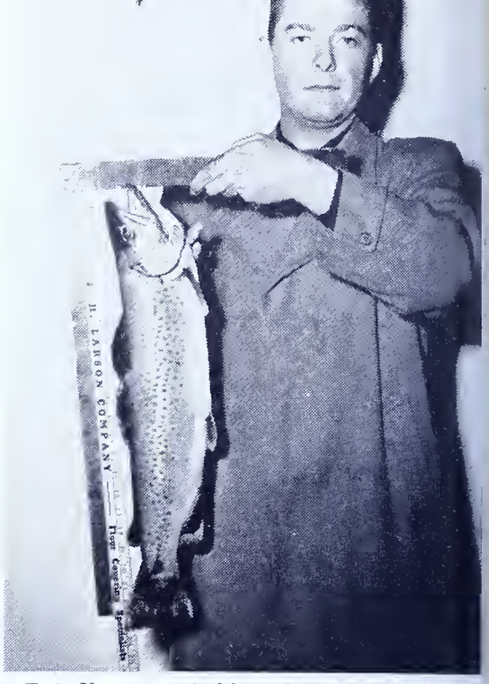
Among the prize catches recorded by Harders was a brook trout many inches longer than any char reported in the last several seasons. It was a 19-inch fish, although for many years brook trout more than a foot in length have been very rare.

Large brown trout are caught each season in the vicinity of Williamsport, so it was not great surprise when one contestant brought a 23¼-inch "brownie" weighing 5¼ pounds to enter in the competition.

Merchandise worth $15 is given each week to the angler bringing the largest fish to Harders. In addition, Lloyd Miller, in charge of the store's photographic department, photographs the big fish and those who catch them and presents the fortunate anglers with pictures of themselves and their fish.

Virtually all of the popular trout and bass streams in North-Central Pennsylvania have contributed to the competition.

Many of the large fish have been entered, too, in the contest for prizes offered annually by the Consolidated Sportsmen of Lycoming County. These awards are announced at the annual spring banquet of this organization, one of the largest groups of sportsmen in the Commonwealth. Valuable prizes are given members catching the largest fish.



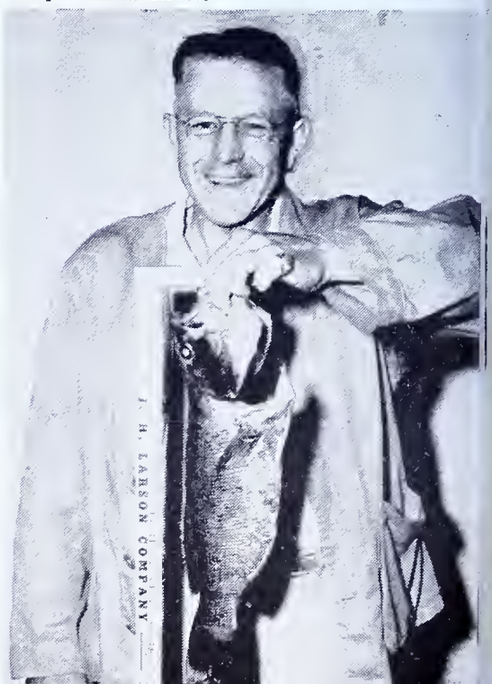
Ted Young and his prize-winning 23¼-in brown trout.

Eugene McClure, of Jersey Shore, with the 18¾-inch bass weighing 2 pounds, 14 ounces which he caught in Pine Creek.

Hazel Stine and her 15-inch brown trout

Verus Kiess, register and recorder of Lycoming County, caught this 20¾-inch bass weighing 4 pounds in the North Branch of the Susquehanna River on a stone "cattie."

Edgar Ott, Williamsport, and his 18-inch, 2 pound bass, caught in the North Branch of t Susquehanna River.



Four-year-old Pat Dailey, Jr., proudly displaying his 18¼-inch sucker.

Bob Eck measures the 19-inch brook trout which won him a first prize.

Ed Moore and his 17¼-inch rainbow trout.

Madeline Fuller and 14½-inch brown trout she caught.

William Glass, Williamsport, with a bass easuring 18 inches and weighing 2 pounds, 14 inces which he caught in Loyalsock Creek.

W. Clyde Sanderson, of Carlisle, and a 24 inch, 5½ pound Brown Trout he took from the Letort Creek at Carlisle April 28.

Penna. Trout Can Grow Large Too

Many articles have been written about the record rainbow trout and their phenomenal growth in Idaho's Lake Pend Orielle and now our attention has been called to a story and a picture in *The Pittsburgh Press.* Our western scout dug this one up and sent it over, I believe, to make we fishermen of the east feel bad. Two fishermen caught 14 rainbows, 22 to 27 inches in length and weighing a total of 74 lbs. The catch made in Thomas W. Koon Lake, off route 220, in Bedford County certainly gives a good indication of the type of fishing possible in our Keystone State. Catches of this size in a highly industrial state fosters the growing belief that rainbows make an excellent lake fish if placed where suitable food is abundant and water temperatures to their liking hold well over the hot summer months. An eastern lake that could be used for an experiment along this line is the smaller of the so-called Twin Lakes, near Milford, Pike County. A tremendous amount of minnow life has been observed there and the lake is both deep and blue-green clear, evidently spring fed as air photos show no inlet to this lake and the only outlet is a shallow man-made connection for boat passage to the larger lake.—*Holmesburg F. & G. News.*

Doylestown Fishing Paradise

After many failures in the past years the Bucks County Fish & Game Association has succeeded in obtaining fishing rights from the Doylestown Borough Council for the children of the community; the right to fish in the Borough Fire Fighting Auxiliary Dam, to the complete satisfaction of 95% of the citizens of the community. A private fishing pond for youngsters.

The satisfaction and happiness of the youngsters could only be appreciated by the grownups who acted as supervisors over the children on their open fishing days. Leading this roll call was the Doylestown Township Emergency Police with an already fine record of cooperation. These unselfish volunteers with the help of club members and nonmembers alike did a magnificent job without any pay except the response of the large number of boys and girls who came out to fish.

Others of the community who gave of their time and money to get and keep this splendid project going were, Dr. William McEvoy and Mr. William Rouse, Jr. These two sportsmen gave unstintingly of their time.

Others furnished trucks and transportation and under the leadership of Mr. Lawrence Terry, released approximately 2000 mature fish for this pond.

Land Miles; Sea Miles Differ

Folks who have much to do with boats soon discover that a land mile is somewhat different from a nautical mile. A mile at sea is longer than a mile on land. Land miles, or statute miles, are 5,280 feet long; nautical miles are 6,080 feet long. A nautical mile equals 1.1515 statute miles. "Knots" mean nothing more or less than nautical miles per hour; so when a boat is said to make so many knots, its speed translated into terms means so many 6080 feet-miles per hour. A boat making 20 knots, for example, would be making 23 statute miles per hour.

Whoo's Trout

By Albert G. Shimmel

THE weathered logs and gray masonry of Kabibonokki clung to the ledge of stone above the little river like a cliff swallow's nest. Hemlock and white birches holding with their root fingers to the weathered fissures pulling their nourishment from the heart of the hills, formed a picturesque setting and blended with the lodge until it seemed a part of the rugged beauty. Resting my pack against the rough bark of a wind twisted hemlock that marked the halfway mark between the water and the lodge, I felt the peace and benediction of the deep woods come with the breeze that cooled my sweat dampened forehead. A faint curl of smoke came from the wide chimney and a minute later a plaid shirted figure raised an arm high in the ancient greeting of welcome old as mankind. Minutes later I was gripping hands in renewed friendship and Mak was talking in the quiet way of a woodsman as if I had been gone only a few days instead of two years.

"The Caddis are on the Big Rock Pool every night for an hour or two and the trout are feeding in a way that means business. There's a couple of nice ones for you and a few for the pan in the morning. The ripple stretch has a good hatch of midges for daytime and the browns there will take a Gray or Badger Spider with a peacock body if you have 'em small enough."

As I dropped my pack in the corner my eye was caught by an unusual mount above the gunrack. A piece of weathered driftwood supported a glowing native trout of goodly proportions while above the spread wings of a great horned owl seemed to be straining upward. A Black Ghost streamer connected to stout gut angled upward to the owl's wicked talons and a closer examination revealed the tangle of gut was held by a No. 10 Cinnamon Caddis firmly hooked among the feathers of the owl's leg. Mak was watching me curiously as I glanced at him with a question in my eyes. He smiled and went on tamping tobacco into his worn pipe with a stubby forefinger. "Break out your tackle and we'll boil the kettle at Big Rock while the trouts makin' up their minds" was Maks way of postponing the story I knew was somehow connected with the mounted specimens.

The sun colored the white birches with a soft pink that matched the sides of the three natives as I laid them on a bed of fern and leaned back against the roots of the gnarled hemlock. Mak was busy with his kettle beside the spring branch that came in just above big rock. Suddenly he stood erect and faced the glowing hills to the west. For minutes he stood with head to one side as if listening, then turning he made his way back to my side.

"Seems like this is just about the best part of the day;" he said, "If it were better don't see how a feller could appreciate it. Come to think on it, I guess there's them that do an' them that don't."

"Reminds me of them two fellers John sent up here last year. Friends of his, he said, but as different as two men could be. George M. was a big feller that carried a lot of extra weight both around his middle and in his talk. I gathered he had made a pile during the war in his coal business and was still at it. Brung a whole case of rods and I guess all the flies in creation. Plowed up the creek as if the devil himself was at his tail proddin' him between casts. Wanted all the trout he could get one way or 'nother. To him the evening rise meant nothing only a chance to make up for what he couldn't get during the day."

"Sylvester B. was a tall gandery feller with a slow soft voice and a quiet solemn way of looking at things as though he was lookin' way off in the future or maybe it was the past and hunting for the why and wherefore of things. I looked at his tackle and it was old and worn but of the best and for flies he had a couple dozen standard patterns and a box of feathers and do-dads to make his own. He could do it too. He'd catch a fly off the stream then look at it and sit down holdin' the hook between his thumb and finger of

his left hand begin to twist and turn fur and silk with feathers into a fly that looked better than any boughten ones you ever saw. He'd fish a little but mostly he'd just move along slow and easy like just lookin' at everything that most fellers pass up. Seems he was a professor of science in some little school and didn't make a wad of money but he was the happiest feller you ever seen. Got his fun out of little things and was contented as a cow in pasture shade."

"We was only out on the creek a little while till I was callin' him 'Si' and he was showing me things I never seen before."

"He found the trout over there in that slick just between the current and the rock. Guess he was about fed up and gettin' particular. Trout don't get that size unless they are smart and particular. Si caught a Cinnamon Caddis and looked it over careful like, then he gets out his little box of junk and makes a dry one. 'Here Mak,' he says 'try this one.' I set 'er down just as careful as I know how with a slack line cast so it wouldn't drag in that trick current but fer all the attention I got it might just as well been floatin' in the rain barrel at camp."

" 'Maybe he wants a wet one,' says Si. 'I notice them flies that come down the fast water gets drowned and the trouts not breaking water just rolling. Let's try a wet.' He made another fly and I remember he used orange brown fur from a cottontail's head, some tinsel and a brown wing and hackle that might have come from any old rooster. Just as he finished who should come barging up the riffles under a full head of steam but George M. in all his noisy glory. He laid a few casts on the pool with a brown bi-visible for the appetizer but he didn't do no business. Finally he splashed out to where I was settin' watchin' Si and looks us over with kind of amused grin that set me itchin' to dump him in the drink if it hadn't been for the pollution it would have caused."

"Si finished the fly and then looking up at George he explains about his theories and the big trout. He goes on to explain how sometime when a trout don't want to feed or is about fed up a feller can buck 'em by putting a bi streamer on behind a wet and make them think something else is going to get the feed that belongs to them. Then he up and offers to fix George a rig and let him try on our trout. You can be he rose to the bait just like a trout when the hatch is beginning. In less than two minutes George was working a rig into the fast water at the head of Big Rock. First thing I know George sets back on the rod and the water was boilin' with that trout trying his best to get some place where he could get

lose from the stinger he had thought as somethin' to eat."

"Now them stones out there are as ppy as preachers say the road to the ot place is, an George got so busy ith his hands he just naturally for- ot about his feet. Fust thing I know own he went like the good book says out the house built on the sand. So eat was the fall of it that I guess the eek went down about four inches om the water he splashed up on the ank. The leader broke at one of the nots just below the line and we hus- ed George back to camp to dry him ut. Next day he left and I stayed round to help him pack out. When I ot back Si was setting out by that able on the back with the trout and a ig wet owl all tangled up in George I.'s leader and flies."

"Seems like he found 'em both dead n the drift below Big Rock. Si thinks he trout got tangled in the drift and he owl spotted him in the shallows rying to get rid of them flies. When he owl reached for him the trout give splash and some way tangled the ther hook in the owl's leg. Any way hey was both dead an' done when he ound 'em."

"Si had a little case of knives and hings like doctors use and he spent alf a day skinnin' an' measurin' and lopin' till the place looked like a hos- pital. Had a time getting him out in ime for the hatch that night."

"Just before Christmas there came a notice of a package for me down at the unction. When I got it home and un- crated there was that mounted owl and trout that Si had fixed for a Christmas surprise for me. There was a nice card with a feller landin' a trout and it said, 'One big one got away but not the other. Be with you when the Cinna- mon Caddis hatch is on.' You'll meet him tomorrow. Now here's the puz- zlement, Si found it, George hooked it, the owl helped kill it and I got it. We call it WHOO'S TROUT! What you think, eh?"

New Knotless Tapered Leader

There's a new knotless tapered leader of nylon monofilament now on the market that is available to both fresh and salt water anglers. The continuous tapered leader does away with the hinging effect caused by tying together leader material of different diam- eters; eliminates disturbances on the water caused by a series of knots; makes possible a butt diameter which nearly matches the taper of the line and produces a leader that lays a fly or bug out on the water much straighter.

"Our grandparents got along without know- ing anything about vitamins," says a column- ist. Well, yes, they got along, but did you ever take a peep in an old album to see how they looked?

A small part of all those attending the dedication is shown in the photo—approximately two-thirds of the lake is in the background.

Harrisburg Hunters and Anglers Dedicate Lake

With very appropriate ceremonies and with the pitched tension of The First Annual State Fly and Bait Casting Championship N.A.A.C.C. Registered Events, the Harrisburg Hunters and Anglers Association on Sun- day, August 13th dedicated Lake Sheesley.

The lake is an artificial body of water de- veloped on the club's property opposite the city of Harrisburg and is fed with a series of springs. In addition to providing a grand site for the conduction of casting tourna- ments, the lake has also been stocked with largemouth black bass and bream in the ex- pectation that ere long it will provide ex- cellent fishing.

Contrary to events of this kind the lake was dedicated to and named for a living person honoring Mr. Earl Sheesley who played an important part in the engineering and development of this body of water. David L. Perry a member of the State Liquor Control Board delivered the dedicatory ad- dress and paid high tribute to the efforts and diligent work of the association. Other persons of rank in the Pennsylvania field of conservation were present and introduced to the group and their friends from many surrounding states. Among these were C. A. French, Executive Director of the Pennsyl- vania Fish Commission; Thomas D. Frye, Executive Director of the Pennsylvania Game Commission; Gen. A. H. Stackpole, Member of the Pennsylvania Fish Commission and John Herman, Member of the Pennsylvania Game Commission. J. Allen Barrett, Direc- tor of Publicity and Public Relations of the Pennsylvania Fish Commission, Master of Ceremonies was in charge of the program.

Mrs. Ellen A. Dietrich of Upper Darby, Pa. and who is Secretary of the Southeastern Divi- sion of the Pennsylvania Federation of Sports- men's Clubs who attended the ceremonies, proudly displays her packet bearing the insignias of numerous sportsmen and casting clubs in which she holds membership. Mrs. Dietrich is also a contributing author to the columns of the PENNSYLVANIA ANGLER.

Angler Writer Back in USAF

Jim Hayes, Jr., 11 Afton Ave., Pittsburgh, Pa., has been recalled to active duty with the United States Air Force.

A sergeant with the Air Force Reserves, he will report for a year of active duty, Sep- tember 5 at Mac Dill Field, Fla.

Mr. Hayes has been granted a military leave of absence from his duties as a re- porter for *The Pittsburgh Press.*

Jim Hayes will be refreshingly remem- bered by the many readers of the PENNSYL- VANIA ANGLER as the author of numerous in- teresting and informative fishing articles. We feel confident when we say that the ANGLER expresses the best wishes of his host of friends for a safe and successful mission.

Random Notes on Bass Bugging

By Don Shiner

THERE is nothing more thrilling or exciting than to watch a fighting black bass leap clear of the water and dance for a moment on the end of his tail in an effort to free himself from the steel hook imbedded in the body of a fly or bug. Using fairly light tackle allows him to fully exert his resistance and perform more maneuvers.

Truly it is a sport not to be easily forgotten. All this can be achieved by merely employing a fly rod and small fly rod lures, namely, bass bugs. The bass bug is a floating lure, and to be affective must be used only when the bass are in the shallow water searching for a dinner. Casting a bug close to the shore-line among the weeds, lily pads and sunken logs, late in the afternoon and evening, you will get plenty of rises and take your share of black bass too.

Without a doubt the evening affords some of the best angling. After the melting rays of the sun have danced across the water and hid behind the western horizon, the various winged insects are out flying over the surface of the water. The bronzebacks are instinctively aware of this and glide silently within the shallows with eyes glued to the surface window. They might catch a shadow or image of a 'winged bug' as it flutters close by a lily pad. If by chance it hovers too close or falls upon the water and struggles to ascend into flight again, the bronze-cruiser rushes smashingly at the morsel of food. All that remains is a tiny swirl or upheaval of water where the bug once was. One small insect is hardly enough for a meal, so the bronzeback fins idly while he is tensely keyed for another tasty prey. Certainly you can imagine what would happen if the angler dropped an artificial bug close by the feeding bass. Providing the angler dropped the lure carefully and did not alarm the bass, instantly he would bolt for the bug with a desiring fire burning in his eyes and body.

Sometimes the bass strike with such determination and speed that he actually misses or pushes the bug away with his nose. However, if he wasn't pricked by the sharp hook, he often will turn and strike again with more accuracy.

However, the angler may cast the bug too close to the bass and the 'spat' of the bug landing in the water almost on top of him sends him scurrying away. Allow the bug to remain there motionless and the curiosity imbedded in the make-up of the bass will cause him to return and investigate. After the bug has remained motionless for a time—even as long as three minutes—twitch or jerk the bug slightly to make it appear it has life, and be ready for a bass attack.

It is unpredictable from which direction the bass will strike. At times they strike the lure from the side with an upward leap, other times they will appear from behind and suck in the bug with little commotion. Often in clear water, the angler can see the bass before it finally strikes, however, in dark water the sudden leap of a bass comes as a surprise and sets the blood tingling through the fisherman's veins. Watching or seeing a bass strike can be a handicap though. The angler becomes tense instantly and often his reflexes causes him to strike too soon thus missing the rising bass which otherwise would have been hooked. Some anglers too, after an hour of casting become uninterested and after making a cast pay attention to everything except the bug, consequently miss the sudden strike of a bass. It is far better to stop for a rest and then resume with fresh interest.

There is a wide variety of bugs on the market and materials from which each are made. Some are of wood cork or have plastic bodies, as well as strickly feathers or hair. Undoubtedly the wood, plastic and cork or heavier bodied bugs cast much better and are

Jake Broyan of Nescopeck, R. D. No. 1, holding a beautiful 20 inch—5¼ lb. largemouth bass caught in Saxe Pond, Dushore, Pa.

lss air resistant. However, which-ver bug is used, use the wind as your lelper. If the wind is blowing shore-ard, this is an ideal set up for bug-ng from a boat or the opposite shore the lake or stream is then perfect to st from the shoreline. By casting ith the wind rather than against it ou should have little difficulty hand-ng bugs.

Bugs can only be handled properly id manipulated effectively by using floating line. The line should be well essed with some preparation de-gned to make the line buoyant and event it from absorbing water and nking.

Surface bugs are generally asso-ated with lake and still water angling. his is not always the case as bass ugs are very effective in fast moving ater and currents. Cast the bug out to the current, across and up stream. llow the bug to float naturally or vitch slightly by vibrating the rod p. Hold the rod in readiness for a rike at any time. Most of the bass the rapids which strike will hook emselves the greater percentage of mes.

"Drag" on a floating bug or fly used r bass is not detrimental as when ngling for trout, but on the contrary, eems to render the lure even more ap-ealing. "Drag" is merely the term sed when the current indiscriminate-tugs at the line and "drags" or auses the fly to be pulled unnaturally cross the surface. This is caused by asting a fly across a fast moving cur-ent to practically still water. The ast moving current quickly bellies the ne and "drags" the fly or lure across he slow moving water into the fast noving current. A natural floating nsect cannot do this skimming.

The northern smallmouth black ass (micropterus dolomieu) which enerally inhabits the fast moving treams is by far a better fighter than ts cousin, the southern largemouth micropterus salmoides). This is pri-narily due to the waters of the north eing colder than the warm sluggish vater of the south. Even though the argemouth grows much larger, a mallmouth will out fight and maneu-er a largemouth twice its weight. The argest big mouth on record taken with ight tackle weighs over 20 pounds. A 4 pound smallmouth is the largest ecorded.

Both species often inhabit the same vaters in the Northern States, and ave withstood man's pollution of vaters far better than trout. Of course, his polluted water accounts for the ariation in color of the black bass and hey vary from bronze, green, olive, to dirty yellow. The flesh is also af-ected too and at places is actually un-it for human consumption.

Joe Messinger's hair frog is one of the most outstanding surface lures that can be used on a fly rod. It really takes bass—big ones too!

The Southern bass feed twelve months a year, the Northern small mouth hibernate during the winter, lying almost dormant during the cold weather. Little food is taken at this time and for this reason their growth is limited to only about 8 months of the year, whereas the Southern large mouth grow to a larger size yearly.

The two species are easily distinguishable. One of the quickest methods of segregating the two is by observing the maxillary or mouth. In the largemouth, the maxillary extends beyond the eye, and of course, with the smallmouth, the maxillary does not extend beyond the eye. There are various other ways of differentiating between the two but this is the most simple.

The bass spawn in early spring or summer. Southern bass may spawn as early as March while the northerns do generally around May. When a late spring occurs, this prolongs the spawning time even as late as July. Bass should not be taken at this time as millions of baby bass will be destroyed if the parents are taken from the duty of guarding the nest.

There are a few rambling notes of importance which I should like to impress upon the reader in conclusion.

When casting, caution should be practiced against creating any disturbance which would frighten the bass. It is much better to cast from deep water shoreward than the reverse as some bass may only be in water deep enough to barely cover their dorsel fin, and walking along the shore line will invariably scare them.

Sold body fly rod lures, some designed so they will 'pop' when retrieved are good lures for fly fishing for bass.

Don't give up casting a likely looking hole just because the bass do not respond to the first few casts. Some bronzebacks like to be coaxed and repeated casts and the bug being retrieved continuously over head often arouse interest or anger within the bass.

If a bass misses the bug upon striking, remain quiet for a few minutes and cast again. If the bronzeback fails to strike again, pass on to another likely spot, then come back and try again.

After using bugs, especially the hair bug variety, 'swish' it through the air a few times and then allow it to dry a few seconds before putting it back in the container. Mildew and rust will spoil many fine lures if the bugs are put away wet in the fly box.

The fellow who is on the waters, angling, early in the morning and late in the evenings is the angler who gets the bass. Confine your angling time to these periods and your bass catches will improve. However, remember, this sport of bass fishing in the future depends largely upon our manners today. If we kill every fish we catch, our waters will fast become barren of fish. They are heading in that direction now. We certainly shouldn't return home with a huge string of fish and give a large percentage to neighboring friends. If you wish to feed those friends, buy some pork chops. Remember, a bronzeback killed is dead forever, but, if he is returned, he's waiting to give you a battle again tomorrow.

When playing a hooked bass, keep a taut line, but do not try pulling the fish into the net or boat by mere strength. Play the bass and enjoy one of the finest thrills in angling.

Use a good grade line dressing. This not only keps the line floatable but also preserves the finish while it is being pulled through weeds and sharp edged lily pads.

Lastly, respect your fellow anglers. Do not disturb the waters they are fishing. There are plenty of other pockets which yield fish in every stream, and room enough for all of us.

Bugging for bass is undoubtedly the finest way of angling for bass. Use this sporty method once, and you will 'bug' forever.

Lands 21 Pound Carp

One of the largest carp reported for a number of years from the Perkiomen Creek was landed by Fred Leister of Rahns on the evening before Decoration Day.

The record breaker measured over 33 inches long and weighed 21 pounds.

Freddie also caught a seventeen pounder and several smaller carp the same evening.

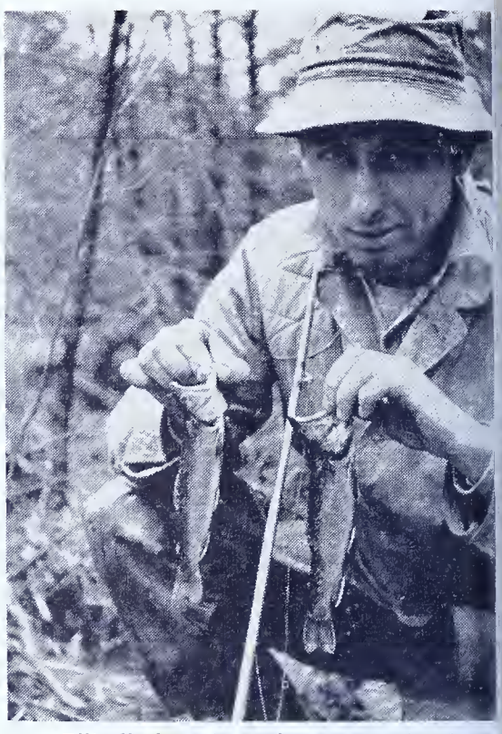
Tom Thumb Trout

By Don Winters

"OPERATION TROUT" was definitely bogged down, both literally and figuratively. Rain pelted the Ford in a steadily increasing fury, and with each new deluge, we could see the dirt road gradually changing from a well graded mountain path, into a nasty appearing muddy canal. Each fresh gust of rain also added to the fury of the roaring, snarling mass of dirty water that a few hours before had been a gentle chuckling trout stream.

Bill and I had sat huddled up in our dripping car for nearly two hours waiting for the cloud burst to stop. Directly in front of us was a car load of anglers, also sweating it out. Their fly rods were leaning against the side of their auto, so apparently they braved the storm for at least a short time, in an effort to take a trout. I could understand the attempt, as the car bore out of state license plates, and the men had no doubt driven a considerable distance, only to have their trip spoiled by a nasty whim of the weather man. Even as we watched, one of the party clad in a yellow slicker, darted out of the car, hastily took down the rods, handed them in to his buddies, raced to the stream bank, retrieved a minnow bucket, and headed for his auto. He passed near our car window on his return trip, and I rolled down the glass and asked if they were quitting. "Quitting is right!" was his ready reply. "We only had a few hours, and it looks like the storm has ruined our chances for today." As he turned away he pointed under the dripping hemlocks beside the car, and said, "There's about forty nice red worms in that coffee can over there, if you fellows want to use them. They wouldn't stand the trip home anyway." I thanked him and then watched their auto grind its way up out of the hollow toward the paved road. "Too bad," remarked Bill, as he finished the last dregs of coffee in his thermos bottle, "Those boys sure got a tough break. What'll we do now? Give 'er up or what?" "Might as well quit," I answered him, "But let's take those worms along." He retrieved the can and we turned the car around and headed toward home.

Once out on the pavement the going was much better, and by this time the rain had slacked to a mere drizzle. The wheels sang on the wet pavement and we had covered nearly half of our homeward trip, when Bill heaved himself upright in the seat and said in a loud voice, "Stop the car!" I slacked off and pulled over on the berm—"What's the matter fella,," I yelped, "Sick or something or—" "No I'm all right," he answered, "But I've got the answer to this high water thing." I listened patiently, expecting to hear some wild plan for attaching bulbs and batteries to our streamer flies so the trout could see them in the muddy water, but instead, the words I heard



Bill displays two nice swamp trout.

put new life in me, we were back i the trout fishing business in a hurr

Bill's talk had certainly made sens Even though all the normal size waters in our section were out of the banks and definitely unfishable, w knew that the tiny feeders deep in th woods and swamps would be litt changed from their normal stage. I fact, a little additional water seems t put these little streamlets in bett shape for the short range worm tacti necessary to effectively fish the sma brush choked pools. Bill had the sp well picked. During our mink trappir efforts in the fall we had several tra set along three small trickles th flowed out of a dense, second growt hemlock swamp, and crossed a litt used road in one of the large tracts State Game Land in Crawford Count Pennsylvania. On nearly every trip these little runs we had observe brightly colored brook trout, in fu fall breeding season colors, laying i the miniature riffles. The mink an coon knew they were there too, an our trapline in this section really pai off. After trapping season was ove we both forgot about the sassy litt brookies, until Bill saved the day wit as neat a bit of "chestnuts out of th fire" remembering as I have seen i many a day!

As we pulled up to the three litt culverts, I'm afraid we both felt a b sheepish to be setting up our gear o such little water. Less than a foot wid in some places, the little brooklet ofte changed course to go around a clum of yellow flowered cow slips that cha lenged the right of way. A few of i tiny riffles could be dammed momer tarily by turning the foot of my wadin

Three odd looking natives.

oots across the current. Nevertheless, his pint sized trickle flowed and gurled with a power far out of proportion o its width, and we knew that somewhere deep in the hemlock swamps rom which it flowed, was a mighty pring of ice cold temperature and reat force. In surveying our fishing rospects from the road we decided o try the upstream or swamp side. Shortly below the road the little rickles merged into a combination bog nd beaver dam, much too tough and lense for our efforts, even though we new that a lot of the trout we oberved in the streams in the fall were robably back in the safety of the big eaver dams.

The afternoon was almost half gone s we set about to ready our tackle or a try at the ditch sized trickle. The vorms that the disappointed fishermen had given us in the morning roved to be in fine shape and we split he can between us. Bill kept the can, nd I dumped my handful into a shirt ocket with a little moist grass to keep hem fresh. This is a practice that nakes for easy access to your bait, ut one that may irk your wife a bit f you accidently leave a worm or two n the pocket until laundry day. We ttached short, light, Nylon leaders to ur lines, terminating in a number 6 Sproat hook with a small split shot bout eight inches up on the leader to arry our bait under the snags and ndercut banks. The drizzle had lackened off into almost a mist and he evening chorus of spring peepers vere tuning up back in the swamp as ve began our efforts. I suddenly remembered in a rush of pleasant nemories, that luck or not, we were in for a lot of fun. This was fishing of a type that we hadn't attempted in a long time, not in fact, since our first brook trout of boyhood days. I threaded a wiggling worm on my hook with new confidence. A fellow doesn't ever forget those lessons learned in the dim days when bare feet were the accepted wading equipment and hip boots were far beyond our boyish budgets.

I made my first attempt in a tiny dinner plate sized pool about ten yards above the road. The clear water gurgled pleasantly over a miniature golden pebbled riffle, and slid quickly under the protecting bulk of a jutting hemlock root. What lay in this dark, root protected cavity was anybodys' guess. Years ago, on a sparkling little jewel of a stream called Indian Run, that flowed near my home, there would have been no doubt as to there being a trout in such a pool. But that was a long time ago.

The twisting worm was easy to follow as it tumbled down the little riffle toward the dark water. No red finned demon charged out to meet it, but my hopes were still high as it slipped from sight into the untried depths of the hemlock shadowed pool. A tinge of disappointment began to penetrate my senses, and some how I realized that perhaps my hopes had been too high. Maybe the trout we had seen during the fall were miles away from this tiny feeder, maybe—Socko! The line disappeared in a sizzling arc beneath the hemlock root, my carelessly held rod tip smacked the water, and all doubt was removed from my mind! There was no mistaking it, the stubborn, throbbing weight battling the spring in my bent fly rod was a good old fashioned native brook trout! Rod pressure gradually forced him out of his snug retreat into the shallow riffles. I stripped in line slowly, until only about three feet of vibrating leader separated rod tip and trout. A quick lifting movement and the fat brookie was flopping in a stream side patch of cow-slips. With trembling hands I lifted the beautiful fish and examined him carefully. About 11 inches long, dark brown, almost black on his mottled back, his brilliant crimson spots stood out like rubies along his glistening sides. A splendid, dark colored swamp trout, his overly large head and jutting lower jaw, being characteristic of the so-called "natives" of this region. I was a kid again as I grubbed in my shirt pocket for a fresh worm.

Bill at one of the wider spots.

As the spring peeper chorus increased in tempo, and the shadows began to lengthen along the tiny hemlock choked brook, the brookies went on a real feeding spree, and when the first bit of night fog began to form in the swamp I was content to head out for the road. My old canvas creel bulged with a fine load of trout in a crisp bed of wet water cress, and the cold water draining from their glistening sides leaked through my clothing and trickled down inside my left boot leg. I didn't mind a bit.

Back on the road, in front of the headlights, we examined each others catch. Bills' trout matched mine for size and beauty, with perhaps, a few more of the larger ones falling his way. We slowly took down our rods and wiped them dry before putting them away. The little brook provided a pleasant accompaniment for this chore

(*Turn to Page* 24)

Note big head and long jaw on this brookie.

Cocalico Creek Boys Doing Fine Job

The Cocalico Creek Sportsmen's Association located in Denver, Lancaster County, is really doing something about trout fishing facilities. Having some 700 members, the club meets regularly and is divided into a number of active committees. Rudy Shirk, who is in charge of the clubs publicity, is very interested indeed to hear tell of their progress in all their conservation activities.

Beginning early in 1946 the club and its fish committee began improving and constructing nursery water and dams on the Cocalico Creek. Today, as evidenced by the accompaning illustrations, a visual picture of the program is presented.

Five of the club's members constitute the fish committee, with Sam Shirk as chairman and assisted by Pat Hoster, Lee Brubaker, John White, and Hayden Frederick. The nursery production really began to pay dividends when this year the club raised some 10,000 brown trout. Of this number, more than 4,000 brown trout fingerlings were placed in the surrounding streams open to public fishing.

The nursery is located on the Cocalico Creek, a private stream owned by Nick Apprich and embraces about one-fourth mile which has been set aside for the project.

The officers of the Cocalico Sportsmen's Association are: Martin Glass, President; Ralph Bensing, Vice-President; Reuben Hoover, Secretary; and Benj. Gearhart, Treasurer.

The Cocalico Nursery Dam opposite Greenville.

(All photos courtesy of Lancaster Sunday-News)

These brown trout are all 6 inches or more long and serve to illustrate the clubs' ambition to stock a size well over local stocking programs

Here members of the Fish Committee are lifting small trout to be transported to the small nursery ponds.

A view of the series of dams into which the water is spilled over a fall, thus releasing the excess of dissolved gas which may be harmful.

ilk Line Gets Welcome Return

The return of silk to the consumer market nder the guidance of SCAP (Supreme Comander of the Allied Powers), meant a flurry feminine finery, but it also brought extement to fishermen. It spelled just one ing—no more trouble with that end of the ckle!

In the years since World War II, silk line as sold in quantities far exceeding any prear record. Either there are more fishermen ese days, or silk fishing line was drastically issed.

Among the many conveniences of pure silk shing line is its elasticity. Silk fiber gives asily under light pressures to give a game ght as you play in your catch, yet it will ot overstretch and let a fish break clear. lk has a greater density than other fibre, so, which makes possible a narrower, less nspicuous line of great strength and durbility. It is particularly fine for fly fishing, r the finish clings to the fiber and retains s hard smooth surface for rapid shooting rough the guides.

One often hears that silk line has a tenency to "rot out" more quickly than other bers, yet silk line is less subject to sunlight egradation, so devastating to other lines. lk line will serve you perfectly for a whole ason at least, and often longer, but many ofessional sportsmen prefer to buy new nes each year in order to try out the latest evelopments in fishing line.

The current military situation may create shortage of synthetic fishing line, and thus cus a new importance upon silk. Many eople who have not used silk before will ereby be introduced to its advantages, and in the ranks of the seasoned fishermen who ave never used anything else. In any event, is good to know that silk can be counted to keep America fishing in spite of the nergency.

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ngler Author Receives Award

National recognition of their efforts in behalf of forest conservation and pollution ntrol has been earned by the Conservation oundation of New York City and Bill Wolf, Philadelphia writer.

Awards were announced recently at the nual meeting at Timberline Lodge on Mt. ood of the National Association of Conservation Education and Publicity.

The Conservation Foundation was cited r its production of visual education films its "Living Forest" series. Wolf's citation as earned by his series on pollution, "Running Sores On Our Land," appearing in a tional outdoors magazine.

Judges were Seth Gordon of San Francisco, member of the California wildlife nservation board; Tom Wallace, editorneritus of the *Louisville* (Ky.) *Times*; d J. N. (Ding) Darling of Des Moines, ., dean of conservation cartoonists.

(Editor's Note—*Wolf is the same Bill Wolf hose timely articles are read regularly in the* NNSYLVANIA ANGLER. *His article "Running Sores n Our Land" as published in a national outor magazine is recognized among the outstandg articles prepared on stream clearance in the nited States.*)

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friend may smile and bid you hail
et wish you with the devil;
it when a good dog wags his tail,
ou know he's on the level.

Typical Pennsylvania Better Fishing Rodeo

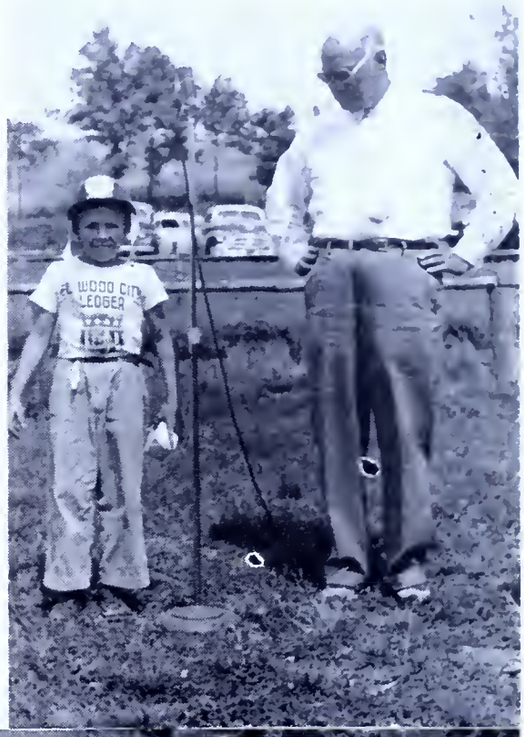
Typical of the numerous fishing rodeos held throughout Pennsylvania during 1950 are these scenes snapped at the Ellwood City Rodeo held at Perry Lake near that Northwestern community in Lawrence County.

Nine-year old "Dotty" McAnallen, of 831 Pershing Street, is the Ellwood City 1950 Fishing Rodeo Queen. "Dotty" snagged a 1½ pound channel catfish. She had a struggle landing the prize fish when her pole broke in three places before she could bring it to shore.

Joe Bodnar, 11, of Mounted Route 7, is the 1950 Fishing Rodeo King. Joe copped honors in the boys' division by landing a 1½ pound largemouth bass. He also had a fight on his hands, and oldtimers applauded his great skill in handling his catch.

The rodeo was sponsored by the Ellwood-Wampum Rod & Gun Club with John Vogler as chairman. He was assisted by Darl Allen, Joe Kraynak, Harold McKim, R. J. Schill, Walter Tindall, Emmett Burns, Theodore Garda, Steve Chinchi, Clyde B. Houk, Clark Ricer, William McCullough, Harry Gaiser, Red Radermacher, Joe Clark and Tom Piscitelli.

C. A. French, Executive Director of the Pennsylvania Fish Commission has just presented to Alfred Mazzant a beautiful fishing reel. Alfred was a special guest of the Ellwood City Fishing Rodeo Committee as the newly-crowned Soap Box Derby Champion of that community.



Tension runs high as these boys and girls crowd Perry Lake to vie with one another for the honors of the day.

Makes Unusual Catch

Mr. John Kormanski, Six Mile Run, Penna., caught a crappie bass that had no tail. Apparently it had been bitten off by some fish or turtle, just behind the fins and the top and bottom fins stuck out from behind the fish and served both the purposes of swimming and balance. The wound was completely healed, so apparently the fish was getting along all right. It was 4⅝" long and 2⅝" from top to bottom. It was caught in the Raystown Branch, near Saxton, Pa.

New Outdoor Clothing Available

Waders for stream fishermen, fabricated of vinyl film with electronically welded seams weigh only 22 ounces. They feature two large inside pockets and are of the English stocking type feet for wear with any type of shoe. The color is forest green and they come in a handy pouch-pack and are designed to sell for less than $8.00 per pair.

Other articles, made from this same plastic are wader top, parka, jacket and raincoat all in their own vinyl pouch-pack.

PENNSYLVANIA REPTILES & AMPHIBIANS

A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 19 . . . Lizards

About Lizards

Lizards are predominately southern in their distribution. They are far from common in Pennsylvania, and only four species have ever been recorded in this state . . . three skinks and one swift or iguanid lizard. There are about 127 different species and subspecies found in the United States. Only one of these is poisonous . . . the gila monster of the southwest.

In Pennsylvania, our common salamanders are often called lizards erroneously. Lizards are reptiles with dry, scaly skins and claws on their toes; salamanders are amphibians with skins usually moist like frogs. Salamanders never have scales or claws.

All Pennsylvania species have legs, but one common lizard of the southern and central states is legless. It is called a "glass snake." Most lizards have movable eyelids and external ears openings; snakes do not.

The so-called horned toad of the western desert country is a lizard. So is the popular American chameleon, whose ability to change color has made it a favorite pet.

NORTHERN BLUE-TAILED SKINK (Eumeces fasciatus) . . . Maximu length 6½ inches from tip of snout to tail in specimens that have n lost their tail; this is the skink usually found in Pennsylvania; femal and young have five longitudinal yellow stripes on body; young ha brilliant blue tails; in males, stripes are indistinct or absent, head broad and reddish; decayed logs and sawdust piles are favored habitat lays 2 to 15 small eggs with leathery shells; recorded from 17 countie mainly central and southern Pennsylvania.

BROAD-HEADED SKINK (Eumece laticeps) . . . Maximum length 11 inches; resembles blue-tailed skink in coloration except that old males develop much larger and redder heads; inhabits drier places and is largely arboreal; largest of Pennsylvania skinks; juveniles difficult to identify, sometimes have seven stripes instead of five; Pennsylvania's only specimen collected at York Furnace, Lancaster County; photo courtesy Zoological Society of Philadelphia.

BLACK SKINK (Eumeces anthracinus) . . . Maximum length inches; Dr. Netting suggests best way to identify skinks is send th to a museum; while adults may be recognizable, young are oft puzzling; black skink is characterized by broad, dark brown stripe each side of body; food is small insects and insect larvae; very secreti and is rarely encountered; recorded from Clearfield, Clinton a Cumberland counties only; photo courtesy Dr. S. C. Bishop.

MALE NORTHERN FENCE LIZARD (Sceloporus undulatus hyacinthinus) . . . Maximum length 7 inches; no general rule for separating sexes in lizards, but frequently males are more brilliantly colored; male fence lizards bear conspicuous blue patches along flanks and on throat; blue patches exposed by males in courting females or intimidating trespassing males; scales strongly keeled, giving rough bark-like appearance to skin; unlike skinks which display much smoother and polished exteriors.

FEMALE NORTHERN FENCE LIZARD (Sceloporus undulatus hyac thinus) . . . this species approaches northern limit of range in Pe sylvania where it has been recorded from 27 counties, mainly n southern portion; also called swifts; females usually lack blue col tion of males; female more boldly marked above than males; found dry woods and near piles of brush or slashings; 4 to 17 eggs laid female ½ to 4 inches below surface of the ground; digs own burrow.

'Truly These Be Parlous Times"

By CHARLES H. CHAPMAN

With the nations of the world fighting or snarling like mad dogs, ready to fly at each other's throats, it would seem no time to enjoy the Contemplative Man's Recreation," yet what better anodyne can there be for strained nerves and tortured minds than quiet days along the streams and upon the waters, where Nature calms the brain storms and relaxes the tautness of daily stresses?

It was in a very similar period of English life; while Charles I was losing his throne and his head, Cavalier fighting Roundhead, Cromwell and his army ousting Parliament and forcing the blue laws on a grumbling Britain, and Charles II, placed on the throne by that same army, instituting an area of wild dissipation on the rebound from forced asceticism, that an humble philosopher and Christian commoner and tradesman was writing from his experiences along the streams and rivers of his beloved English countryside that first truly comprehensive treatise on our beloved sport of fishing, "The Compleat Angler." That it became at once a "best seller" is indicated from the fact that from its first publication in 1656 it reached its fifth edition in the 1670's, which first included Charles Cotton's elaborate description of fly fishing in the Derbyshire streams.

Delightful as Father Isaac's pages are with their wealth of philosophy, poetry and love of nature, the true fly fisherman cannot fail to be more interested in Cotton's chapters, meticulously describing every detail of the "gentle art" as then practiced. Let us make some brief notes of the methods of our forebears of the seventeenth century as compared with ours of the twentieth.

Cotton's rod is "five or six yards in length," 15 to 18 feet, of light fir wood joints, spliced with thread and light enough to be used with one hand. Evidently a formidable weapon as we would consider. Item two, the line. Made of hair, horse hair; silkworm gut and enameled silk were far in the future and the leader, as a separate part, unknown. The line begins at the hook, two hairs twisted.

The Author considers a single hair a little too fine, from which we may infer that there were light tackle advocates even then, who used the single hair. After two lengths of double hair, about four to five feet, he adds another hair and again at the next double length a fourth, and so on up to seven or eight strands.

Here we have the genesis of the tapered line, three centuries old, and a very practical line and leader in one. The line was fastened to the rod tip, no guides or reels in those days. Father Isaac only mentions the reel or "wheel" once, and that in connection with Salmon and places it in the middle of the rod instead of at the butt. So we have a gigantic whip, fifteen to eighteen feet long in stock, and lash one and a half to two yards longer than the rod, i. e., twenty to twenty four feet.

Truly, "Whipping the stream" was no misnomer of the old writers, but any fly fisher for salmon will realize that a very nice fly could be cast with such an outfit; although one will wonder how a fish could be landed neatly with it. Cotton solves this by reminding "Viator" that an angler would of course have an attendant to carry his duffle and net the played fish, a "gillie" as the Scots call him. So much for rod and line.

Next consider the hook, which is to be knitted to the end of line. Now comes the fly, which is to be tied on the hook over the knitting, and the very careful and minute directions Cotton gives to this tying are well worth the reading by every earnest fly fisherman. Each angler is expected to tie his own and this tying is as much a part of his skill as casting, playing and landing the fish and the man who had not mastered this craft was evidently no complete master of his art. Changing the fly must have meant cutting the old fly off the hook for the new dressing or perhaps cutting off the end of the line and fastening on a new hook. It was surely an ideal way to present the fly; no knots, loops or eyes; just a fly on the end of a double or single hair.

It is worthy of note that all flies were to be fished dry.

Walton lists only twelve patterns, but Cotton gives us sixty-seven, distributed by months from February to November. Many of them have names that still remain on our present day lists. There are winged flies, hackles and palmers, mostly in sober shades; duns, blacks and browns, very few in lighter colors and very little tinsel. Mallard breast even then was the favorite for wings, although many other feathers were used. Winged flies seem to have been tied without hackle, the fuzzy herl, wool and "camlet" (silk and wool mixed) bodies no doubt serving in place. Both authors advise the fisherman to take his tying kit to the streamside and try to imitate the fly then on the water.

If the tackle was big, the fish were big also. Piscator takes a 22 inch trout and sends it to the kitchen to be cooked for dinner.

Cotton casually mentions 20-inch trout and 16-inch grayling and advises "Viator" to return smaller fish to grow up; and speaks of "whales" that might be even too much for his gigantic tackle.

All good fishermen should read the lines and between the lines of the Complete Angler and take to heart Father Isaac's Anglers Prayer—

"Let everything that hath breath praise the Lord and let the blessing of St. Peter's Master be with mine and of all that are lovers of virtue and dare trust in His Providence and be quiet and go a-Angling."

John Longenacre of Port Royal, Juniata County, proudly displays the exceptionally large Susquehanna Walleyed Pike which he caught from the Tuscarora Creek near Port Royal. The fish measured 29½ inches long and weighed seven pounds, and is regarded as the largest from that area in quite a long time. Longenacre used a live stone catfish as bait. (Photo by C. V. Long, State Fish Warden.)

Fisheries Management Unit Active

The Fisheries Management Unit of the Pennsylvania Fish Commission will return to Bellefonte from the Northeastern part of Pennsylvania along about October 1.

The Commission feels that more good sound work was accomplished this year than in any other similar period since the management program was begun in 1946. Equipped with a mobile biological laboratory considered among the finest in this field of activity, the unit has spent the season in the Pocono Mountain area. Scientific investigation into various lakes and major streams in that section has provided much valuable information for the biologists and pathologists at the Pleasant Gap Laboratory. This year's survey was conducted on Brady's Lake in Monroe County; Wallenpaupack in Wayne and Pike Counties; Page's Pond in Susquehanna County and Shehawken Lake in Wayne County. In addition to this specialized work in Northeastern Pennsylvania twenty-two other streams in other sections of the state were studied by the biologists of the Fisheries Management Unit.

In order that the public better understand just what studies and investigations are conducted in these programs it was learned that they include cataloging the various species of fish found in the stream or body of water and a critical study of their interdependence upon one another for existence. The density of game and food fish population together with the presence of smaller fishes, etc. Particular attention is paid to the study of the rate of growth of the fish and all related subjects affecting the aquatic life in the area, water temperatures, rise and fall of water volume, public fishing pressure, and many other important factors necessary to the work.

The Fisheries Management Program is primarily designed and serves to assist nature in providing a better habitat, more natural food, healthier fish and, of course, better fishing. The information gathered in these scientific expeditions is brought back to the central laboratory at Pleasant Gap, where it is carefully compiled and studied during the winter months. A program is then set up upon which the future management of the particular lake or stream is based.

C. A. French, Executive Director of the Pennsylvania Fish Commission, said, "The results of our Fisheries Management studies have been marvelous and we are confident that this program will lend itself not only to providing better fishing, but will enable us to better manage and control the public fishing program in Pennsylvania."

PENNSYLVANIA FISH LAW VIOLATIONS

CASES SETTLED DURING THE MONTH OF AUGUST 1950

ADAMS COUNTY

Pifer, Chester C., East Berlin, Pa. Violation of the rules and regulations of the Pa. Fish Commission $20.00

ALLEGHENY COUNTY

Brown, Harold A., Jr., 64 Briggs St., Pittsburgh, Pa. Operating motor boat without displaying license plates 10.00

Dietz, Albert C., Sr., 1229 Ravine St., McKeesport, Pa. Illegal device .. 20.00

Dobler, Donald F., 277 Bellevue Rd., Westview, Pittsburgh, Pa. Operating motorboat without displaying license plates 10.00

Jacobs, Edmond, 804 Washington St., Natrona Heights, Pa. Two undersized bass 20.00

Kelly, Donald, 308 42nd St., Pittsburgh, Pa. Operating motorboat without displaying license plates .. 5.00

Madison, Clyde, 727 Linden St., Donora, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

Maska, Leroy G., 427 West 7th Ave., Tarentum, Pa. Exceeding creel limit 20.00

Pavlik, John A., 1315 Spring Garden Ave., Pittsburgh, Pa. Fishing without a license 25.00

Roup, William F., Pitcairn, Pa. Operating a motorboat without displaying license plates 5.00

Smith, Delbert L., 525 Chartiers Ave., McKees Rocks, Pa. Operating a motorboat without a license 10.00

Sommers, John S., Pitcairn, Pa. Operating a motorboat without displaying license plates 5.00

Ussia, Mrs. Mary, 529 Park Ave., Clairton, Pa. Fishing without a license 25.00

BEAVER COUNTY

Brandt, Robert H., Jr., R. D. 1, Freedom, Pa. Illegal operation of motorboat 10.00

Hartman, Lester R., 572 4th Ave., Freedom, Pa. Operating motorboat without displaying license plates .. 10.00

BERKS COUNTY

Barlet, Russell, R. D. No. 1, Reading, Pa. Illegal operation of motorboat 25.00

Becker, Thomas H., 109 Peach St., Reading, Pa. Illegal device 20.00

DeBlois, Renee L., 534 Tulpenhocken St., Reading, Pa. Illegal operation of motorboat 25.00

Dereck, Preston G., West Hamburg, Pa. Illegal operation of motorboat 25.00

Fegley, Edward, 219 Broget St., Shillington, Pa. Exceeding creel limit 10.00

Herb, William H., 11 Maple St., Reading, Pa. Illegal operation of motorboat 25.00

Moyer, David A., 1308 Luzerne St., Reading, Pa. One undersized bass 10.00

Pawling, George C., 2129 Fairview, West Lawn, Pa. Illegal operation of motorboat 25.00

Reinhold, F. C., 4232 10th Ave., Temple, Pa. Illegal operation of motorboat 25.00

Reinhold, F. C., 4232 10th Ave., Temple, Pa. Illegal operation of motorboat 10.00

Schwenk, Robert J., 560 S. 16th St., Reading, Pa. Illegal operation of motorboat 25.00

Sinestri, Guss, 829 Thorn St., Reading, Pa. Illegal operation of motorboat 25.00

Trexler, Warren L., Topton, Pa. Operating motorboat without displaying license plates 5.00

Weldermuth, Paul, 616 Locust St., Reading, Pa. Illegal operation of motorboat 25.00

BLAIR COUNTY

Amigh, David D., 1916 3rd St., Altoona, Pa. Fishing without license 25.00

Amigh, David D., 1916 3rd St., Altoona, Pa. One undersized black bass 10.00

Fix, Lamar, 553 6th St., Lakemont, Altoona, Pa. One undersized black bass 10.00

Gardner, G. O., 317 Bell Ave., Altoona, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

Young, Donald E., 903 2nd Ave., Altoona, Pa. Fishing without a license 25.00

BRADFORD COUNTY

Kiederling, Herbert, 224 S. River St., Sayre, Pa. Exceeding creel limit .. 30.00

Kuhar, John A., 306 Huges St., Sawyerville, Pa. Fishing in private lake on Sunday without permission of land owner 25.00

Vicent, Herman, Monroeton, Pa. One undersized bass 10.00

BUCKS COUNTY

Kline, Marcus S., 119 N. 6th St., Perkasie, Pa. Illegal operation of motorboat 25.00

J. P. "Jake" Middour of Harrisburg displays two fine catties taken from the Conewingo Dam on May 22, 1950. "Jake" was accompanied on this trip by "Marty" Myers, both of the Pennsylvania Department of Agriculture.

CAMBRIA COUNTY

Abele, Marvin E., 388 Corinne St., Johnstown, Pa. Trespassing on State Fish Hatchery with intent to fish .. 100.00

Connor, Paul, Box 101, Salix, Pa. One undersized bass 10.00

Dyson, George, 1025 Davis St., Nanty Glo, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

Horner, Delno R., Jr., Box 94, R. D. 1, Johnstown, Pa. Exceeding creel limit 10.00

Milchak, Gus, 500 Grape Ave., Morrelville, Pa. Fishing without a license 25.00

CARBON COUNTY

Burnhauser, James, 621 North St., East Mauch Chunk, Pa. Illegal operation of motorboat 25.00

Donahue, Wilbur, 428 Center St., East Mauch Chunk, Pa. Operating motorboat without displaying license plates 5.00

Eckman, James, R. D. No. 3, Lehighton, Pa. Operating motorboat without displaying license plates 10.00

Snoich, Steve, Nesquehoning, Pa. Illegal operation of motorboat 25.00

CENTRE COUNTY

Buynak, Andrew, Osceola Mills, Pa. Two undersized trout 20.00

Frank, John G., R. D. No. 1, Osceola Mills, Pa. Two undersized trout .. 20.00

Frank, Joseph M., R. D. No. 1, Osceola Mills, Pa. Two undersized trout .. 20.00

Thomas, Jesse W., Milesburg, Pa. One undersized trout 10.00

Watson, Irvin T., R. D. No. 3, Bellefonte, Pa. Exceeding creel limit .. 10.00

Watson, Irvin T., R. D. No. 3, Bellefonte, Pa. Two undersized trout .. 20.00

Winkler, Frank A., 902 Blanchard St., Osceola Mills, Pa. Two undersized trout 20.00

CHESTER COUNTY

Baldwin, Stephen J., 109 N. Church St., West Chester, Pa. Operating motorboat without a license 10.00

CLARION COUNTY

McMillen, Elwood, Knox, Pa. Operating motorboat without a license .. 10.00

CLEARFIELD COUNTY

Cramer, Nelson P., 530 Clearfield St., Clearfield, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

CUMBERLAND COUNTY

DeShong, Theda J., 25 N. Washington St., Shippensburg, Pa. Exceeding creel limit 10.00

Means, Chalmers E., R. D. No. 1, Shippensburg, Pa. One undersized bass 10.00

Means, Charles, 212 N. Front St., Wormleysburg, Pa. Operating motorboat without a license 10.00

DAUPHIN COUNTY

Good, Charles, Highspire, Pa. One undersized bass 10.00

Hulstine, Harry, Middletown, Pa. Illegal device 20.00

Hulstine, Robert, Middletown, Pa. Illegal device 20.00

Hulstine, Russel, Loyalton, Pa. Illegal device 20.00
Young, Wilford F., 1836 Walnut St., Harrisburg, Pa. Fishing without a license 25.00

DELAWARE COUNTY

Barger, Joseph P., 223 Ardmore Ave., Upper Darby, Pa. One undersized pickerel 10.00

ELK COUNTY

Turley, E. W., R. F. D. No. 1, Weedville, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

ERIE COUNTY

Adams, Robert A., 765 Tacoma Rd., Apt. 2, Erie, Pa. Illegal operation of motorboat 25.00

FAYETTE COUNTY

Coughanour, Frank, Washington St., Hopwood, Pa. Illegal operation of motorboat 10.00
Coughanour, Frank, Washington St., Hopwood, Pa. Operating motorboat with improper license plates 10.00

FRANKLIN COUNTY

Lehman, William M., 135 E. 2nd St., Waynesboro, Pa. One undersized bass 10.00
Martin, Bruce, St. Thomas, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

HUNTINGDON COUNTY

Black, John S., Orbisonia, Pa. Fishing without a license 25.00
Holt, V. John, Marklesburg, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00
Muser, Mrs. Clyde, Mill Creek, Pa. One undersized bass 10.00
Paller, J. Wesley, Robertsdale, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00

INDIANA COUNTY

Bair, Leroy C., R. F. D. No. 1, Rossiter, Pa. Exceeding creel limit 10.00
Dixon, John, Rossiter, Pa. Exceeding creel limit 20.00
Hickok, Don E., R. D. 2, Clymer, Pa. Fishing without a license 25.00
Stiles, Charles L., Box 48, Heshbon, Pa. Fishing without a license 25.00
Stiles, William C., Box 48, Heshbon, Pa. Loaning a fishing license 25.00

JUNIATA COUNTY

Book, Norma, Port Royal, Pa. Fishing without a license 25.00

LACKAWANNA COUNTY

Baptest, Anthony, 425 Brook St., Moosic, Pa. Fishing in closed waters without permission on Sunday 25.00
Bennice, Robert C., 1230 Wyoming Ave., Forty Fort, Pa. Operating a motorboat without displaying license plates 10.00
Book, George, 1022 Linden St., Scranton, Pa. Operating a motorboat without a license 10.00
Burns, Joseph D., 623 Delaware St., Scranton, Pa. Allowing a motorboat to be operated without displaying license plates 10.00
Osborne, Thomas, 1228 S. Webster Ave., Scranton, Pa. Exceeding creel limit 10.00

LANCASTER COUNTY

Gatchell, Samuel, 1020 E. Orange St., Lancaster, Pa. Fishing with borrowed license 25.00
Gatchell, Samuel, 1020 E. Orange St., Lancaster, Pa. Exceeding creel limit 20.00
Dean, Albert, 539 Dauphin St., Lancaster, Pa. One undersized bass .. 10.00
Herr, Jacob, 540 Burrows Ave., Lancaster, Pa. Illegal device 20.00
Hoober, Richard, R. D. No. 1, Willow St., Lancaster, Pa. Illegal device .. 20.00
Kistler, William, 625 N. Plum St., Lancaster, Pa. Fishing without a license 25.00
Mowery, Jacob M., 425 N. Mary St., Lancaster, Pa. Operating a motorboat without displaying license plates 10.00
Splain, David C., 503 Ruby St., Lancaster, Pa. Exceeding creel limit .. 20.00
Splain, Velma, 503 Ruby St., Lancaster, Pa. Loaning a fishing license 25.00

LAWRENCE COUNTY

Arnold, Harold E., R. D. 2, New Castle, Pa. Fishing in a State Fish Hatchery 100.00
Jones, Thomas, R. D. 9, New Castle, Pa. Fishing in a State Fish Hatchery 100.00
Tanner, Ted, 1008 Huey Ave., New Castle, Pa. Illegal operation of motorboat 25.00
Whybrew, Vaughn, Ellwood City, Pa. Operating a motorboat without displaying license plates 5.00

LEHIGH COUNTY

Gurskey, Daniel L., 43 S. St. Cloud St., Allentown, Pa. Operating a motorboat without displaying license plates 10.00
Janssen, Henry, 44 Orchard Ave., Greenwalde, Allentown, Pa. Illegal operation of motorboat 25.00
Krause, Earl, 242 E. Mosser St., Allentown, Pa. Fishing with a borrowed license 25.00
Krause, Keith, 242 E. Mosser St., Allentown, Pa. Fishing with a borrowed license 25.00
Lane, Alfred, 441 North St., Allentown, Pa. Operating a motorboat without displaying license plates .. 5.00

LUZERNE COUNTY

Behnke, Adolph, 150 S. River St., Wilkes-Barre, Pa. Operating a motorboat without a license 10.00
Burke, Frank A., 253 Chestnut St., Hazleton, Pa. Fishing without a license 25.00
Evans, Lewis, 409 Milwaukee Ave., Old Forge, Pa. Operating motorboat without displaying license plates 10.00
Klosowski, Edward, 55 N. Grant St., Wilkes-Barre, Pa. One undersized bass 10.00
Kolesar, George, 1931 Susquehanna Ave., Exeter, Pa. Exceeding creel limit 10.00
Krebs, Leo, 30 Ash St., Wilkes-Barre, Pa. Illegal device 20.00
Padovan, Frank, 31 W. Charles St., Plains, Pa. Exceeding creel limit 10.00
Stankevich, Joseph, 43 Main St., Inkerman, Pa. One undersized bass 10.00
Troy, Walter, 1003 W. 8th St., West Wyoming, Pa. Exceeding creel limit 10.00

LYCOMING COUNTY

Bixler, Neil R., 233 E. Jefferson St., Williamsport, Pa. One undersized bass 10.00
English, Tracy A., 228 Front St., Williamsport, Pa. One undersized bass 10.00
Feister, Donald, 918 W. 4th St., Williamsport, Pa. Operating a motorboat without displaying license plates 5.00
Herman, W. J., R. D. 2, Williamsport, Pa. One undersized trout 10.00
Lavo, Harry J., 435 Market St., S. Williamsport, Pa. One undersized bass 10.00
Long, Clifton, 103 Carpenter St., Montgomery, Pa. Operating motorboat without displaying license plates 5.00
McCramer, Eugene E., 713 Rose

Hellertown Club Hears Federation Editor

Charles Nehf, editor of the *Federation News*, official monthly publication of the Pennsylvania Federation of Sportsmen's Clubs, spoke at the regular monthly meeting of the Hellertown Sportsmen's Association held at Green Acres, Hellertown.

Nehf spoke on how clubs become affiliated with the County Federation and how the federations become divided into divisions, namely: Central, Southern, Northeast, Southeast, Northwest, Southwest, North-central and South-central.

As a result 63 counties are represented by 200,986 members. Of the 1,000 sportsmen's clubs in Pennsylvania nearly 600 belong to the federation.

He praised Governor Duff's clean stream program and the actions of the Sanitary Water Board in restoring long lost fishing areas.

He elaborated on the survey made by Professor Trembly, state fish biologist, in that the Lehigh River can, in time, be cleaned up and made into one of the finest fishing areas in the state. Some of the finest pike perch, yellow perch, calico bass, sunfish, bluegill, large and smallmouth bass, white catfish, rainbow and brown trout fishing could be had once the river is cleaned up. He is temporary chairman of the Lehigh River Restoration Program.

Leslie Ruth, chairman of the club's fish committee, commended the Pennsylvania Fish Commission on the size of trout stocked in Saucon Creek.

Roy Ditterline, representing the Bethlehem Game, Fish and Forestry Association, congratulated the Hellertown club in agreeing to close the Saucon for five days in order to make the children's fishing contest at Saucon Park a success.

St., Williamsport, Pa. Exceeding creel limit 20.00
Seidel, George R., 411 Lundy Drive, Williamsport, Pa. Exceeding creel limit 30.00
Williamson, Thomas R., Linden, Pa. Operating a motorboat without a license 10.00

McKEAN COUNTY

Holmes, Harold, 70 East Ave., Bradford, Pa. One undersized bass 10.00

MERCER COUNTY

Emmett, Harry L., 237 S. Mercer St., Greenville, Pa. Fishing in State Fish Hatchery 100.00
Emmett, Roland J., 82 Shenango St., Greenville, Pa. Fishing in State Fish Hatchery 100.00
Gully, Guy W., 825 Broadway, Farrell, Pa. Operating motorboat without displaying license plates 10.00
Jones, Richard M., 729 S. Oakland St., Sharon, Pa. One undersized walleye pike 20.00
Pearce, James L., R. D. 5, Greenville, Pa. Fishing in State Fish Hatchery 100.00
Royal, John W., 7 Short St., Greenville, Pa. Fishing in State Fish Hatchery 100.00

MIFFLIN COUNTY

Allis, Paul M., Lewistown, Pa. Operating a motorboat without displaying license plates 5.00
Kerstetter, Lloyd F., Highland Ave., Burnham, Pa. One undersized trout 10.00
Shirey, Lynwoode K., 237 Yale St., Lewistown, Pa. Operating a motorboat without a license .. 10.00
Wian, Harry A., 8 Lombardy Circle, Lewistown, Pa. Operating a motorboat without a license .. 10.00

MONROE COUNTY

McKinney, Thomas, Mountain Home, Pa. Operating a motorboat without a license 10.00

MONTGOMERY COUNTY

Hastings, Bernard B., Spring Mount, Pa. Operating a motorboat without displaying license plates 5.00
Whittingham, Norman J., 322 Springs Ave., Ardmore, Pa. Illegal operation of motorboat ... 25.00

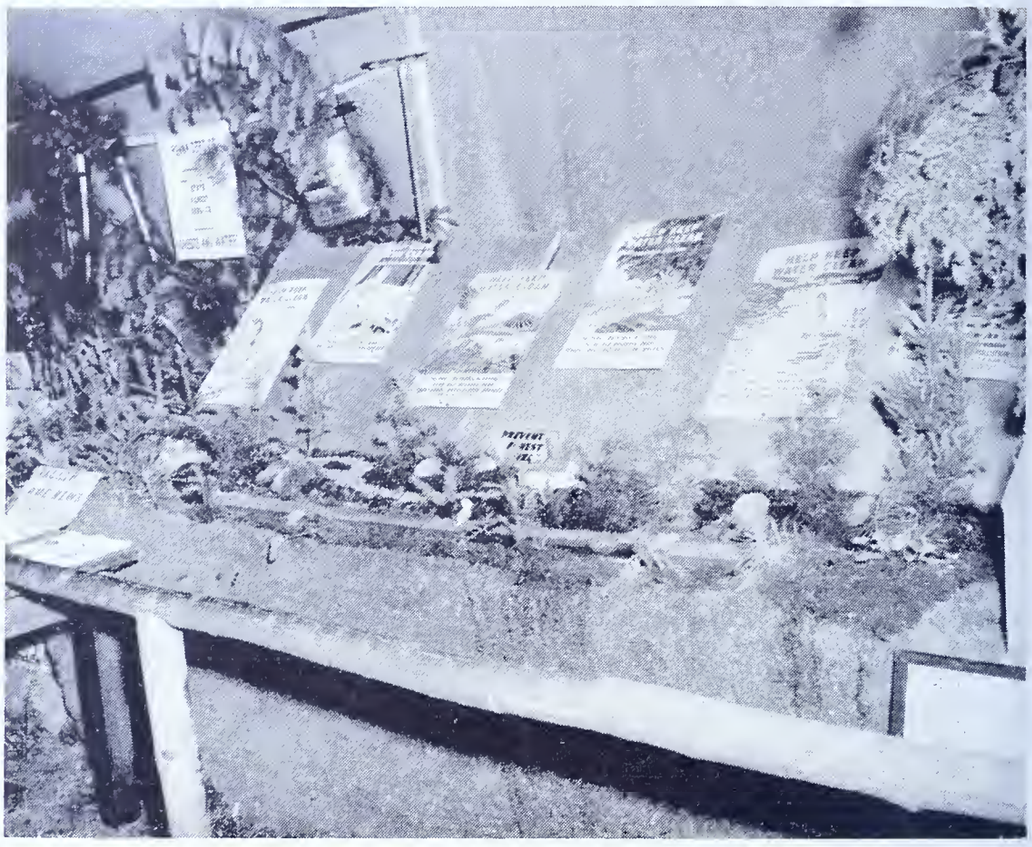
MONTOUR COUNTY

Folk, Elmer F., R. D. 2, Danville, Pa. One undersized bass 10.00
Trump, James J., R. D. 3, Danville, Pa. Exceeding creel limit 10.00

NORTHAMPTON COUNTY

Kelly, William, 5223 Clewell St., Bethlehem, Pa. Operating a motorboat without a license .. 10.00
Kralick, Harry J., 612 S. Bishop Thorpe St., Bethlehem, Pa. Operating a motorboat without displaying license plates 10.00
Whitesell, Clifford, 337 Durham St., Hellertown, Pa. Exceeding creel limit 20.00

Fine Fish and Wildlife Exhibit at Punxsutawney Fair



A glimpse of the fish and wildlife exhibit at the Punxsutawney Fair during the last week of July 1950. Planned and prepared by Fish Warden Dean R. Davis with the valuable assistance of Joe Barkley, Vice President of the Pennsylvania Federation of Sportsmen's Clubs, the exhibit displayed a miniature stream of running water in which live bluegills and perch made their temporary home. The exhibit attracted wide attention with fascinated crowds not only enjoying the display but likewise admiring the natural outdoor backdrop built with trees, moss, etc. The exhibit attracted as many as 2,500 people in one evening.

NORTHUMBERLAND COUNTY

Amato, Dominick, 226 S. Diamond St., Shamokin, Pa. One undersized bass 10.00
Cohoon, John G., 323 E. Center St., Mt. Carmel, Pa. One undersized bass 10.00

PERRY COUNTY

Beers, Charles O., 405 Maple Ave., Marysville, Pa. Two undersized bass 20.00
Mullins, Ralph, R. D. 2, New Bloomfield, Pa. Exceeding creel limit 70.00

PHILADELPHIA COUNTY

Adelman, Albert, 7512 Sherwood Rd., Philadelphia 31, Pa. Exceeding creel limit 20.00
Adelman, Samuel, 7518 Sherwood Rd., Philadelphia 31, Pa. Exceeding creel limit 20.00
Bates, William J., 233 Huron Ave., Elkins Park, Philadelphia, Pa. Operating a motorboat without a license 5.00
Burns, John P., 1804 Memphis St., Philadelphia, Pa. Fishing without a license 25.00
Mongeul, Joseph, 6608 Paschall Ave., Philadelphia, Pa. Fishing without a license 25.00
Stoneback, William, 3145 N. Reese St., Philadelphia, Pa. Loaning a fishing license 25.00
Yavne, Raphael, 6747 Souder St., Philadelphia, Pa. Fishing without a license 25.00

PIKE COUNTY

DePalma, Louis, Tafton, Pa. Operating motorboat without a license 10.0

SCHUYLKILL COUNTY

Eisenhart, James D., 117 N. 2nd St., Frackville, Pa. Fishing without being registered 20.0
Hertz, Leo C., 101 Schuylkill Ave., Shenandoah, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.0
Hlavaty, Joseph, 102 2nd St., Coaldale, Pa. Illegal operation of motorboat 25.0
Idzee, Albert, Box 112, Tamaqua, Pa. Operating a motorboat without displaying license plates .. 10.0
Martz, Robert H., 677 E. Main St., Lykens, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.0
Schraeder, William R., 837 Water St., Pottsville, Pa. Operating a motorboat without displaying license plates 5.0
Shefrencky, John C., Main St., Maizeville, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.0
Stranko, Joseph, 10 N. Morris St., St. Clair, Pa. Operating a motorboat without displaying license plates 10.0

SOMERSET COUNTY

Flick, Russell W., R. D. 3, Stoystown, Pa. Violation of the rules

and regulations of the Pa. Fish Commission 20.00
itchell, Noah R., Box 8067, Boswell, Pa. Exceeding creel limit 40.00
itchell, Noah R., Box 8067, Boswell, Pa. Six under sized bass 60.00
hler, Melvin J., R. D. 1, Stoystown, Pa. Exceeding creel limit 40.00
hler, Melvin J., R. D. 1, Stoystown, Pa. Six undersized bass 60.00
aulis, William F., R. D. 3, Somerset, Pa. Using explosives 100.00
llivan, John L., R. D. 1, Somerset, Pa. One frog in closed season 10.00

SQUEHANNA COUNTY

ewman, Henry, 38 Cherry St., Montrose, Pa. One undersized pickerel 10.00
weeney, Walter J., R. D. 1, Brackney, Pa. Illegal operation of motorboat 5.00

OGA COUNTY

eikle, Jacob A., R. D. 6, Wellsboro, Pa. One undersized bass 10.00
ichols, Franklin W., 44 Fishler St., Wellsboro, Pa. Two undersized bass 20.00
rdway, John, R. D. 1, Millerton, Pa. Fishing without a license .. 25.00

NION COUNTY

oyer, Charles I., 601 Market St., Lewisburg, Pa. Operating a motorboat without displaying license plates 10.00

ENANGO COUNTY

ightlinger, Melvin, 160 Lambert St., Franklin, Pa. Operating a motorboat without a license ... 10.00

ARREN COUNTY

hambers, Ruth, Sheffield, Pa. Exceeding creel limit 10.00

ASHINGTON COUNTY

hapman, Al., Box 495, Fredericktown, Pa. Loaning a fishing license 25.00
orey, Donald R., 52 Acheson Ave., Washington, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00
oddard, L. E., 507 Tyler Ave., Washington, Pa. Fishing without being registered 20.00
robovich, Milan, 200 Monongahela Ave., Glassport, Pa. Fishing without a license 25.00
esnosky, Mike, Box 234, Fredericktown, Pa. Fishing with a borrowed license 25.00

ESTMORELAND COUNTY

unter, Charles R., R. D. 1, Mt. Pleasant, Pa. Fishing without a license 25.00
homas, J. C., 108 15th St., Vandergrift, Pa. One undersized bass 10.00
agaman, Charles E., R. D. 2, Greensburg, Pa. Fishing in Nursery Waters 100.00

YOMING COUNTY

alvert, Mrs. Grace, R. D. No. 3, Tunkhannock, Pa. One bait box without tag 20.00
Calvert, Mrs. Grace, R. D. No. 3, Tunkhannock, Pa. Selling bait illegally 20.00
Davidson, Herbert, Tunkhannock, Pa. Violation of the rules and regulations of the Pa. Fish Commission .. 20.00
Dickinson, Zeb, R. D. 3, Tunkhannock, Pa. Buying two stone catties taken from Pa. waters 20.00
Dickinson, Arden, R. D. 3, Tunkhannock, Pa. Selling five stone catfish taken from Pa. waters 50.00
Henning, Arthur P., Mehoopany, Pa. Buying and reselling bait from public waters of Pa. 100.00
Henning, Arthur P., Mehoopany, Pa. Failure to maintain proper records for selling live bait 20.00
Lange, Peter, Mehoopany, Pa. Selling two stone catfish taken from the public waters of Pa. 20.00
Lott, Russell, Box 67, Meshoppen, Pa. Buying and selling live bait taken from the public waters of Pa. 100.00
Lott, Russell, Box 67, Meshoppen, Pa. Failure to keep proper records of live bait sales under a permit 20.00
Pickett, Edward, Laceyville, Pa. Violation of the rules and regulations of the Pa. Fish Commission 20.00
Squire, Vincent, Mehoopany, Pa. Selling two bait fish taken from the public waters of Pa. 20.00
Wise, Joseph, Tioga St., Tunkhannock, Pa. Operating a motorboat without displaying license plates 10.00

YORK COUNTY

Brenner, Francis X., 131 E. Chestnut St., Hanover, Pa. Illegal device .. 20.00
Feeser, Burnell, 226 Moul Ave., Hanover, Pa. One undersized bass ... 10.00
Gentzler, Charles, 164 E. Cottage Place, York, Pa. Operating a motorboat without displaying license plates 10.00
Kiser, Guy, Shrewsberry, Pa. Exceeding creel limit 30.00
Libert, John, 911 Princess St., York, Pa. Exceeding creel limit 20.00
Seidenstecker, Adolph, 539 Linden Ave., York, Pa. Operating a motorboat without displaying license plates 5.00
Smith, Harold, 221 2nd St., Hanover, Pa. Illegal device 20.00
Sowers, Roland, 1223 E. Prospect St., York, Pa. Operating motorboat without displaying license plates .. 10.00
Wagner, Clarence M., 415 Girard Ave., York, Pa. Operating a motorboat without a license 10.00
Wentz, Donald E., 818 McAlister Ave., Hanover, Pa. Fishing without a license 25.00
Zane, Robert W., 818 McAlister St., Hanover, Pa. Fishing without a license 25.00
Zinn, C. F., 5 Commerce St., Hanover, Pa. Operating a motorboat without displaying license plates 10.00

OUT OF STATE

Hersey, Allyne E., Hanceville, Alabama. Fishing without a license 25.00
Kweder, Thomas A., 38 Belmont St., Hartford, Conn. Fishing without a license 25.00
McGowan, James E., 40 Ball Farm Rd., Oakville, Conn. Operating a motorboat without displaying license plates 5.00
Wimberley, Charlie, 218 S. Academy St., Ocala, Fla. Fishing without a license 25.00
Kaplan, Marvin, 65 Grumman St., Newark, N. J. Fishing without a license 25.00

FISHING STREAMS

(*From Page* 5)

of the tree, about three feet above the surface of the water, and I twitched the rod gently, hoping that it would come free without imbedding itself in the rotten wood.

The tiny fly danced off the limb and dropped gently to the surface of the water below. There was a great swirl, and in the bright rays of a midafternoon sun I had a brief glimpse of a giant trout.

The fish was hooked, all right, but it never reached my landing net, for that old trout had no trouble at all in snapping my frail leader in that tangle of gnarled tree limbs.

In small streams especially, the angler frequently encounters similar tangles of washed-out roots, fallen limbs, and other vegetation that has toppled into the water. Often piles of this debris will accumulate at points in a stream while the water is high in the spring.

Fish are always present in them.

The problem is how to get bait or lure to them—and, once they are hooked, how to get them out of the water.

Any veteran bass angler needs no reminder that shoreline weed beds are natural hiding places for bass and pickerel. Even trout frequently are caught by flies drifted carefully along grassy or weedy shores.

Fish are in these patches of vegetation in search of food—minnows, insects, and frogs, among others. And if the vegetation is dense enough fish are apt to rest in them when not feeding.

We can sum up this whole discussion of stream obstructions in a simple sentence:

The spots in a stream that are the most difficult to fish usually are the best spots to fish.

Knowledge of them, and of their significance to both fish and fishermen, is necessary if any angler is to appreciate fully all the opportunities for fine sport that nature has provided him in the brooks, the creeks, and the rivers in which he fishes.

—End of Series—

Reiter, Edward R., 47 Center St., Haddonfield, N. J. Fishing without a license 25.00
Zitomar, Merwin, 222 Academy St., Linden, N. J. Fishing without a license 25.00
Brown, Raymond J., R. D. 2, Sherman, N. Y. Operating a motorboat without displaying license plates 10.00
Cimbrosky, Louis, 42-45 Layton St., Elmhurst, L. I., N. Y. Fishing without a license 25.00
Deer, Robert L., 6 Carey Ave., Binghamton, N. Y. Illegal operation of motorboat 10.00
Donofrio, Frank, 8225 Grand Ave., Elmhurst, L. I., N. Y. Four undersized bass 40.00
Johansen, Alfred, 8755 111th St., Richmond Hill, L. I., N. Y. Fishing without a license 25.00
Nacman, Alvyn I., 139 St. Felix St., Brooklyn, N. Y. Fishing without a license 25.00
Richman, Dr. Hyman B., 77-15 113th St., Forest Hills, L. I., N. Y. Fishing without a license 25.00
Wilkins, Clark D., R. D. No. 2, Wellsville, N. Y. Fishing without a license 25.00
Wilkins, Minnie M., R. D. No. 2, Wellsville, N. Y. Fishing without a license 25.00
Dickerson, Raymond, 6718 Carnegie Ave., Cleveland, Ohio. Fishing without a license 25.00
Kirby, W. F., 2205 E. 38th St., Cleveland, Ohio. Fishing without a license 25.00
Leonards, Jack R., 1156 Pomona, Cleveland, Ohio. Operating a motorboat without a license 25.00
Tomcho, John Jr., 9532 Elizabeth Ave., Cleveland, Ohio. Fishing in Nursery Waters 100.00
Spade, William A., 334 Summit Ave., Hagerstown, Md. Fishing without a license 25.00
Herron, Clayton, Star Route 89, Montesonal, Washington. Fishing without a license 25.00

Dingell Bill Becomes Law

President Truman's prompt signature of the Dingell Federal Aid to State Fisheries Bill is being hailed by conservationists as a major step toward the improved management and restoration of an important natural resource, according to the Wildlife Management Institute.

The speed with which this bill moved through the complicated legislative channels of Congress to the President's desk, once its original inertia in its first steps was overcome, has been little short of breath-taking. As it is, his signature on the Dingell Bill marks the end of an 11-year-long fight for a federal aid program to assist the various state conservation departments in restoring sport fisheries to meet the future needs of an ever-increasing army of anglers faced with a decreasing supply of fish.

The Dingell Federal Aid to State Fisheries Act now takes its place beside the Pittman-Robertson Federal Aid in Wildlife Restoration Act as one of the major laws designed to provide the American people with improved recreational facilities during the years to come.

Streamside Life

THE PIED-BILLED GREBE

By Robert Leo Smith

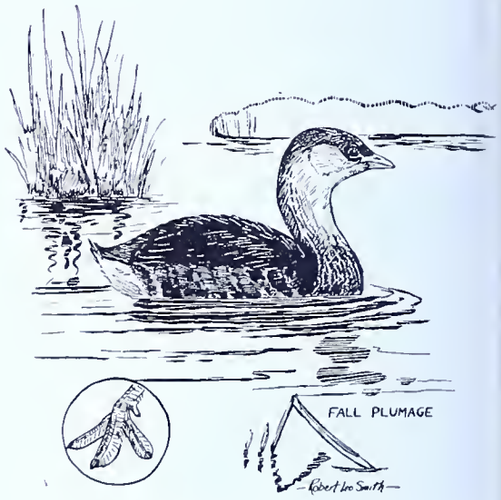
When the maples on the hillside are a flaming red and the first frosts of fall whiten the morning streamside, you may see a brown bird with a slender neck and a snake-like head floating leisurely on the water. Then suddenly it may disappear from sight without leaving a ripple on the water. A few seconds later you may see it again, floating at another spot, seemingly appearing from nowhere. This uncanny ability of the pied-billed grebe to disappear in the wink of an eye has earned it the name of "water-witch" and "hell-diver."

The pied-billed grebe, like other grebes, is completely adapted to aquatic life. Its plumage is hair-like, compact and smooth, completely waterproof. The toes, connected at the base by a web, are flat and are further widened by lobes. Thus the whole foot forms a broad, compound paddle which spreads against the water on the backstroke and folds to offer as little resistance as possible on the return stroke. In fact the grebe possesses one of the most perfect and powerfully designed swimming feet of all vertebrates.

The body of the grebe is wide, boat-shaped and flattened. The wings are short and compact and the tail is nearly non-existant, being merely a small tuft of feathers. Its legs are set so far back on the body that they are virtually useless on land. On land the grebe must stand nearly upright or fall forward on its breast. The bill of the pied-billed grebe, unlike the pointed beak of its relatives, is similar to that of a chicken and during the breeding season is marked with a black band.

The pied-billed grebe, together with other grebes and loons, is the submarine of the bird world. It is able to submerge beneath the water at will. It can sink gradually backwards into the water and maintain itself at any depth. It can swim with only a little of the back showing or with merely the head and bill. At the approach of danger the grebe disappears beneath the surface of the water, swims to a clump of reeds and there hides with only the bill above the surface of the water. So much does the grebe depend on escape through diving that it actually seems averse to flight. When it does wish to take to the air, the grebe must paddle for some distance across the water to gain sufficient power to launch itself into flight. Once in the air the grebe flies quite rapidly with its neck and feet outstretched.

An early migrant, the pied-billed grebe returns in spring soon after the ice has left the ponds. During migration, which is about the only time the most of us see this bird, the grebe inhabits small, sheltered ponds and the quiet stretches of streams where it can swim about in comfort and when danger threatens hide quickly among the cattails and rushes. The grebe nests in ponds and marshes that are surrounded by reeds. Although a common nesting bird at Pymatuning, the grebe finds few other suitable nesting areas in Pennsylvania. During the fall and spring migration the grebe is silent



but on the nesting ground it utters a loud sonorous, cuckoo-like call.

The nest of the grebe is a bulky, floating affair of fresh and decayed marsh vegetation, built in water 1 to 3 feet deep and often anchored to dead and growing reeds and flags. On this damp platform the female lays 4 to 7 soiled white eggs which are incubated by both sexes. In 21 days the eggs hatch and almost immediately the downy young, beautifully marked with black and white, take to the water. Even at this very early age the young are expert swimmers and divers, although they can remain under water for a few seconds only. Like all grebes the pied-billed grebe carries its young about on its back or beneath its wings.

As remarkable as its ability to dive are the food habits of the grebe. Not only do the stomachs of adult grebes invariably contain a mass of feathers, but feathers also are fed to the young. Unquestionably the feathers play an important but unknown role in the nutrition of the grebe. Aside from feathers the grebes live chiefly on animal matter. Contrary to the opinions of many anglers the grebes do not live wholly or even mainly on fish. Crayfish form a large portion of their diet, along with aquatic beetles and insects, tadpoles and seeds of aquatic plants.

Slipping Boat Cushions

Boat cushions, unless fastened to the boat seat in some fashion, are forever slipping off and becoming wet and dirty from contact with the bottom of the boat. The following is a method of fastening cushions that will permit instant insertion and removal: Cut two strips 1½ inches wide and the length of the seat from an old inner tube. Stretch and cross these strips diagonally across the boat seat, tacking down the ends. Cushions can then be slipped under strips and the elasticity will hold the cushions in place.

Definition of moron: That which, in the wintertime, women wouldn't have so many colds if they put.

:mergency Rod Repair

y Kennedy Ludlam

ütdoors Editor, NBC Washington

One of the most irritating things that can appen to you is to be several miles up a ook and suffer some minor mishap to your ckle. This was brought home to me very rcefully back in 1942 at the beginning of e war. I had flown up to Vermont for a ort visit with my brother, and stole a few ours to go fishing on the famous Battenkill ear Manchester. Since I hadn't planned to any fishing when I left home, I hadn't ought my own tackle, and I was using an d flyrod that I found behind the door of e rumpus room. There wasn't even an tra tip for it. I drove several miles to the ook, and got there just about dusk. The sh were beginning to rise, and I started sting. Presently, my casting grew very ry bad, and I realized that something was rong. I examined my rod, and found that e tip guide had come loose from the rod d was just sliding up and down the line. was actually casting from the first snake ide on the tip instead of from the very tip the rod, and of course the results were ything but satisfactory. I kept on as well I could, but it was pretty useless, and I as forced finally to sit back and watch a autiful rise of fish go untried because I asn't equipped to make the simpliest of nergency repairs.

Right then and there I decided that never gain would I go out on a brook without an nergency repair kit in my pocket. By kit, don't mean something that's already packed that you can buy in a store, but a few the simple and necessary things that anydy can use to make uncomplicated repairs the stream. These articles, carried in an d tobacco pouch will make just one more em to fill your pockets, but believe me, any times I've been awfully thankful I d them with me when I've been several iles from the car up the mountain somehere.

First of all, I have a small screwdriver— e about three inches long. There are many nes when a loose screw on your reel can ake all the difference between a spoiled ip and a heavy creel. And there are lots of nken-head screws that a knifeblade won't ach.

Next, I have a dozen snake guides of difrent sizes. Sometimes a guide can come ose from the wrappings, drop off when u're not looking, and there you are with rod that won't function properly because a little bitty piece of wire less than an ch long. Along with the guides, I carry a nall roll of scotch tape. Usually, it's one those rolls left over from Christmas packe wrappings. The trout or bass won't orry if the guide is held in place by a piece tape with old Kris Kringle driving his indeer all over it, and you'll cast much etter if your line doesn't catch in the loose d of a guide that's come away from the rappings.

You should already have a sharp jackknife your pants, so we won't count that as part the emergency kit. Nor will we count atches or a cigaret lighter if you're a noker. If you're not, better slip a package wooden matches into that pouch.

The last three items are a hunk of ferrule cement, and about a yard of copper wire about the gauge of a paper clip, together with a pair of small sharp nosed pliers.

Now, let's see what we'll use these things for.

First of all, the screwdriver is to tighten screws on your reel, and generally to poke and pry at things that won't come loose—such as reels from reel seats.

The snake guides are to replace any that may have fallen off while you've been casting, traveling through brush—being not too careful at the time how you've been handling your rod. Some of the guides may have been flattened by accident—or even scraped off. This sounds as if you didn't know how to care for your good tackle, but those things happen to the most careful of us. You can buy guides very inexpensively in almost any sporting goods store. Better carry about two of each size, making about half a dozen or so.

The scotch tape is to make everything secure and to attach new guides if necessary. Tear off a piece of the tape FIRST. Then lay your guide where the old one was and wrap a piece of tape around one end of it. Then fix the other end the same way. It won't be a professional job, and a rodmaker will scream to high heaven, but you'll be fishing again in a matter of minutes, and that's what you want.

So your tip-guide has come loose. This is what you want the ferrule cement for. Take the cement, hold a lighted match under it until the cement melts, smear a gob of it on the rod tip, and then force the tip guide back on. It'll stay there long enough to let you fish, and the next day you can change tip-sections, or repair it properly at home. You also use the cement to tighten a loose ferrule.

Now we come to a more drastic job. This is when you break the rod tip completely near the end of the rod. There's only one thing to do. Take out your jackknife, and shave what's left of the bamboo tip till you can get it into the spare tip guide that you're carrying as part of your kit with your snake guides. I forgot to mention before, but I'm mentioning it now. The tip-section is ruined anyhow, and all you want to do is to fix your rod so you can go on fishing. Shave it down as I said until you can force on your spare tip guide with an effort. Now take the tip guide off again, and go through the ferrule cement routine that I mentioned before with the new tip guide. Your rod won't cast nearly so well, but at least it *will* cast.

One more thing. Ever tear a hole in your boots or waders on a snag or barbed wire fence? I have, but it hasn't been as uncomfortable as it might be, because as another part of that kit, I carry some material for cold rubber patches and the cement that goes with them.

The copper wire and pliers? Oh yes. The wire you use for almost anything from makeshift guides to improvised shoe-fasteners. I've even used it to hold together the broken harness of my creel as well as the swivel on my net. There are all kinds of things to do with a yard of soft wire, and the pliers will make those things just that much easier.

Now you should be all set for almost any trouble beyond smashing your tackle completely. The only repair I know for that is to go home and get a new outfit.

King Carp

By Charles Dill

Ask the average angler which fish bears the brunt of fishing pressure in Pennsylvania, and he will probably answer the bass or trout. He is correct, but our immigrant fish the common carp also carries its weight of angling pressure. What sets the carp apart from its more aristocratic kin is that while these two other fishes need help to even sustain their numbers, our carp is more plentiful every year. It doesn't worry about water temperatures or food supplies. Even a little oil scum on the surface is no deterrent. Don't worry about his size. Carp have been taken from the Allegheny River over a yard long and tipping the scale at thirty-five pounds. That's no record, I wouldn't doubt that fifty-pound carp have been taken. They subsist on most any vegetable or animal matter that they are able to catch.

They have a peculiar habit of surfacing on warm early mornings which has never been satisfactorily explained. My guess is that they are just splashing around for the sheer joy of it. To see a big bruiser splashing in the shallows is enough to give an old carper that quakey feeling any fisherman knows.

Carp are caught on a variety of baits, but most veteran carpers use either dough or night crawlers. My personal experience has shown dough to be superior. Most fishermen prefer a small single hook, but I have found a size eight treble hook more satisfactory when using dough. The dough stays on the hook better, and I get more solid strikes when using them.

Brother, when you set the hook in a big one, get set for a battle. No jumping, just deep runs and lightning switchbacks that will break your line or tear out the hooks with the slightest mistake. A heavy line is not needed but lots of backing is required. The big ones delight in setting out for distant waters on that first run, and you just can't stop a carp quickly. If you succeed in getting one close to shore, don't try to haul him on land without first making sure he is completely beaten. They have a nasty habit of flopping over sideways and slapping the line with that big tail. Unless you are prepared, you will most certainly wind up minus fish and wiping river water off your red face.

If you haven't gotten around to giving this type of fishing a try, mix up some dough and come down to the river some evening. You're sure to find others of the barked-knuckle fraternity at the likely spots. The carp needs no build-up. Tie into one and other fishing will somehow seem a little pale in comparison.

The following is a sample dough recipe:

One cup corn meal
One cup flour
One-third cup sugar
One teaspoon vanilla

Mix corn meal, flour, and sugar. Add enough water to knead into a ball. Cook in a pan of boiling water for twenty minutes and knead again. Add vanilla and you're ready to go fishing.

Every time you talk your mind is on parade.

Vorticella

By Carsten Ahrens

The phylum of the one-celled animals, *protozoa,* is divided into four groups. The Vorticella belongs to that division known as Infusoria. This group is characterized by rows of celia, tiny hair-like processes, curved like eyelashes, which furnish locomotion for most of the species.

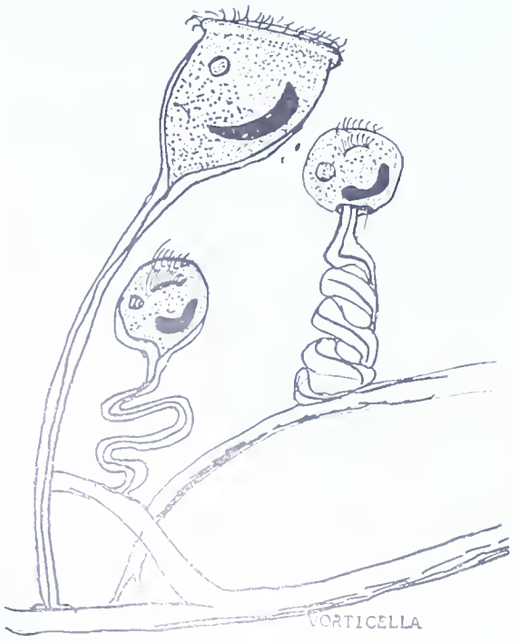
The cilia on Vorticella, however, do not furnish locomotion. These little animals are anchored, and the cilia act as food-getters.

One of the commonest has the scientific name, Vorticella *campanula.* Its specific name means "little bell," and that describes it excellently. Around the mouth of the bell is a row of active cilia. The bell is fastened by a slender stalk of protoplasm. From this mooring, the "bell animalcule" searches the water for even tinier organisms than itself. If it is disturbed, it contracts its stalk spirally. The action is surprisingly swift, but if let alone, the creature will soon be again exploring its tiny liquid world for food.

Vorticella has been known since 1675, when the Dutch janitor-microscopist, A. van Leeuwenhoek, did some exploring of his own. With the aid of his simple microscopes, he described twenty odd protoza. His descriptions were often so general, that we do not know just what one-celled being he had under the lens. But there is no doubt that he watched Vorticella. There is no type among the one-celled animals that can be easily confused with this one.

For a good many years, the animal was regarded as a plant. It was anchored, had a stalk, and a bell-shaped "flower." However, after you watch it for awhile, you will be convinced that it has more animal than plant characteristics. It is a favorite in the zoology laboratory where students are apt to spend more time than the manual allows . . . just watching the antics of the creature.

Vorticella *campanula* has many relatives. Most of them are more or less bell-shaped, but they differ in other ways. Some have no stalk. Others have stalks, but they are not retractile. Some grow singly, others grow independently but in colonies, and still other grow in clusters from a single stalk.



When a single member of this group is disturbed, the entire cluster is apt to be jerked out of danger's way.

Reproduction in the protozoa is usually a matter of cell division. There is nothing to indicate maleness or femaleness in the individual. In the Paramecium, there is conjugation, but the two uniting animals seem identical in every way. In the Vorticellidae, we find an exception to this rule, for there are definite males and females among them. Among members of the genus, Epistylis, there are obvious sexual differences that make it possible for us to speak of one as male and another as female.

Vorticella is commonly found in fresh water ponds and streams. It can be found attached to submerged stones, sticks, and water plants. I had a fine group that had attached themselves to the submerged parts of duckweeds in my aquarium. The commonest support seems to be the filaments of algae, but they have been reported anchored to water snails, fish, and turtles.

Can You Name It?

The Ruffed Grouse.

TOM THUMB TROUT

(*From Page* 13)

as it chuckled its way thorugh the cu vert beneath our feet. Far back in tl swamp a barred owl gave out with h deceptively close sounding hoot, ar received an immediate answer fro some where out in the swirling fo "Talk about lucky guys!" said Bi "We get our bait given to us, we cat trout when no fisherman in his rig mind has a right to expect a catch, ar finally—" he continued, "We discov that this midget variety of trout fishi is more fun than a Tom Thumb g course!" "And," he added after moment's reflection, "You're pret lucky your self, to be able to fish wi a guy that can save the day with o brilliant thought!" In some ways agreed with him.

A Few Hints for Fly Casting for Trout

By Fred J. Kern

Many of our fly fishermen wonder if it is necessary to carry two or three fly boxes filled with flies in order to be an expert fisherman, but this is not necessary as most experts will tell them.

First select about a half dozen patterns of flies in different sizes, this is important, for instances a grey fly tied on a No. 10 and No. 12 hook, a brown on a No. 12 and No. 14 hook, etc. You will find that you can now select about twenty to twenty-five flies and have better results than carrying a hundred flies.

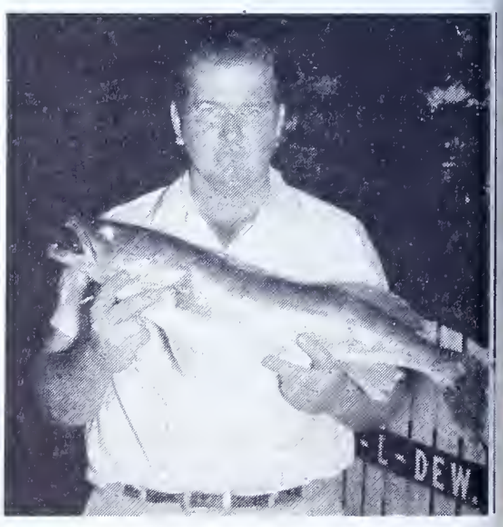
You will notice sometime in your travels along your favorite streams fish are rising for flies which are too small for you to determine what to use, now is the time to pull out a midge, try all three shades, light, medium and dark, this should bring results.

There are two flies you should carry at all times, a ginger quill and a grey hackle quill. I have been using these flies for over twenty-five years and have always obtained good results. There are many other patterns no doubt would give you good results, but then again you would be getting back into the habit of carrying a hundred or more flies. Make a selection at the beginning of the season, give them a good try, pick out what you think best and let it go at that.

Sometime it is not the fly you are using, but yourself. When casting be sure the fly hits the water before the leader. If you have difficulty in doing so, practice raising your rod just before the fly hits the water, or over shoot your mark, this also has a tendency to leave the fly down first.

Most fishermen wade up stream casting the fly ahead, letting the flow of water bring the fly to them. In doing this you have to strip in line fast enough not to cause your line to drag. I will admit it takes practice and you have to have patience. Let me gi you a little tip. Find a spot where there an opening, stand on the edge of the strea and cast your fly in the same manner, ma ing short casts. Raise the tip of your r as your fly comes toward you, after y have mastered the above operation cast little farther, raise the tip of the rod before and strip in the balance. You w soon get accustomed to strip whatever li is needed.

A very good thing to remember, it is r how far you can cast but how good you c cast. Sometimes your short cast will k more fish if placed right than your lo cast. In case of a strike, set your ho then bring the tip of the rod toward y until it is pointing upward and play the fi in this position.



Tom Rodgers of Huey, Penna. proudly displ the 32-inch long walleye pike which he cau from the Allegheny River near Henry's Be The mammoth fish was taken on August 1950 with a small plug and weighed ele pounds.

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

ltoona Awards Sewage Contracts

Awarding of five contracts by the Altoona ity Authority for $782,000, covering con-ruction of the first phase of the sewage eatment works program for that city, has een reported to the Sanitary Water Board. his step is looked upon as of great import-nce in the advancement of the Clean reams program. Altoona is one of the ree largest cities in the Susquehanna River asin, ranking about equal to Harrisburg nd to Wilkes-Barre in population. All sew-ed municipalities in that basin are under rders from the Sanitary Water Board to uild sewage treatment works.

The contract awarded by Altoona will ovide for construction of the primary treat-ent plant of the Eastern treatment works, nd it is the first step in building two separ-e works to provide complete treatment, eplacing the present inadequate treatment orks. The contract price is 17 per cent or 58,000 less than the estimate made by the onsulting engineers. Work will begin July and is to be completed in 300 days.

The Authority at the same time sold an sue of revenue bonds amounting to ,400,000 at an average interest rate of 2.64 er cent, reportedly the lowest of any 30-ear bonds sold by a sewer authority in this tate. Sewer rentals, payment of which will egin July 1, have been adopted for the nortization of the bonds. The balance of e bond issue will be used to construct an utfall sewer for the Western, or second ant.

ease and Desist Orders Issued

The Mifflin Sand Co., Bratton Township, fflin Co., has been ordered by the Sanitary ater Board to cease and desist the dis-harge of industrial wastes to the public aterways. Failure on the part of the com-any to comply with that order will result turning the case over to the Deputy At-rney General for appropriate action.

Sending of the order was decided upon the Board following a hearing of the se in which it was shown that all neces-ry waste treatment facilities have been in-alled by the company and are in operating ndition. All that is necessary is for the mpany to close the valves to prevent the aste waters from going to the stream and verting them to a lagoon which would rve as a settling basin. Representatives the company stated they did not desire to e the treatment facilities to prevent stream llution until other concerns in the area ving similar operations have taken similar eps. The other concerns are under orders om the board to install treatment facilities.

A cease and desist order was also issued the New Enterprise Stone and Lime Co., ake Springs Township, Bedford Co., which under orders to provide treatment facili-es. It was further stipulated in that order at the company submit reports each onth, showing the progress being made on e treatment works.

Solution Sought In Experiment

In an effort to develop a solution of the situations presented under the Clean Streams program by strip mining of bituminous coal, the Sanitary Water Board has adopted tentative rules and regulations under which it has issued to the Barron Coal Co. a permit for the operation of a strip mine on an experimental basis. The operation is located in Upper and Lower Turkeyfoot townships, Somerset Co. along a tributary of Laurel Hill Creek, which is a clean stream. It is planned to issue two similar permits to other producers.

The tentative rules for the experimental operations were prepared by representatives of the Sanitary Water Board, the Department of Mines and the Department of Forests and Waters. Under the permits issued in these cases there shall be no discharge of acid mine waters to the stream. This is to be accomplished by preventing any water coming in contact with the coal at any time for a time sufficient to cause the formation of acid.

At the Barron Coal Co. operation water from springs further up the mountain side is piped over the stripping and continues its flow to the stream. Cutouts are made in the banks of the stripping to permit surface water to flow immediately from the stripping.

The permit also requires that backfilling at all times shall be no further than 500 feet behind the exposed coal which is being mined and that no sulphur bearing overburden shall be placed on the banks. This material must be carted to an area where rain coming in contact with it will not flow to the stream. The Barron Coal Co. plans to burn this material.

Under the terms of the permit the Sanitary Water Board may revoke the permit at any time that there is violation of its conditions.

8 Additional Cases Referred

The cases of eight additional coal mine operators have been referred to the Attorney General for appropriate action by the Sanitary Water Board under charges that they are violating orders of the Board. In three of the cases the Board also revoked permits previously issued on charges that there is violation of conditions of those permits. The others were referred to the legal department because they are operating without permits, the Board having refused to take favorable action on their applications.

During the past month the Bureau of Engineering, investigated 51 additional mining operations for which the Board had issued permits and found they were all being conducted in compliance with the conditions of the permits.

New Posters Now Available

A new series of colored posters, issued to promote the Clean Streams program, have been available since June 15.

Operators Fail to Comply

The cases of eight coal mine operators, whose applications for permits to operate mines have been refused or the permits revoked by the Sanitary Water Board have been referred to the Deputy Attorney General for appropriate action, they being charged with failure to comply with the directive of the Board.

They are Peale, Peacock & Kerr, St. Benedict, operation in Lawrence and Pike townships, Clearfield Co., permit revoked; P & W Coal Co., Indiana, operation in Canoe Township, Indiana Co., permit refused; Cherry Valley Coal Co., Pittsburgh, operation in Venango and Allegheny townships, Butler Co., permit refused; Davistown Coal Co., Connellsville, operation in Springfield Township, Fayette Co., permit refused; Smith & Zindel, Lecontes Mills, operation in Covington Township, Clearfield Co. In each of those cases the Board ordered that the discharge of acid mine waters to the streams shall cease. The other cases are Barhart & Murphy, Mt. Pleasant, operation in Saltlick Township, Fayette Co., permit refused; Big Spring Coal Co., Philipsburg, operation in Rush Township, Centre Co., permit refused: Sadlon & Gurget, Cairnbrook, operation in Stonycreek Township, Somerset Co., permit refused. In the last three cases it is reported that the operations are being continued while in the cases of the five first named cases, the operators failed to cease the discharge from the mines which they had operated.

Board Refuses to Issue Permits

The Sanitary Water Board has refused to issue permits for the operation of eight more coal mines under the Clean Streams program because the discharges of acid mine waters would be to clean streams.

The latest refusals were Crissman Coal Co., Redbank Township, Armstrong Co., deep mine; Furness Coal Co., Limestone Township, Clarion Co., strip mine; Wingert Construction Co., Cherry Township, Butler Co., two stripping operations; North Central Coal Co., Leidy Township, Clinton Co., strip mine; Braine & Mathieson, Irwin Township, Venango Co., strip mine; Tri-County Fuel Co., Murrinsville Township, Butler Co., strip mine; W. Persh Stahlman, Limestone Township, Clarion Co., strip mine; A. P. Weaver & Sons, Pine Grove Township, Venango Co., strip mine.

The Board has also issued cease and desist orders two of whom failed to make application for permits for their operations which is in violation of the Clean Streams law. They are Morris Run Coal Co., Wilkes-Barre, strip mine in Hamilton, Ward and Union townships, Tioga Co. The company failed to apply for a permit for the operation of the mine. It is in violation of the Clean Streams law to open or reopen a coal mining operation without a permit from the Board. A cease and desist order was also issued to the Glenside Coal Co., Karthaus Township, Clearfield Co., which made application for a permit for its operation.

An Object Familiar to Fishermen . . .

Can You Name It?

"AN OUTSTANDING GAME BIRD OF PENNSYLVANIA, PROVIDES FAST SHOOTING, HAS BEEN ADOPTED AS PENNSYLVANIA'S OFFICIAL STATE BIRD." IT MAKES A LOUD WHIRRING NOISE WHEN FLUSHED. NAME IT.

(See page 24 for answer)

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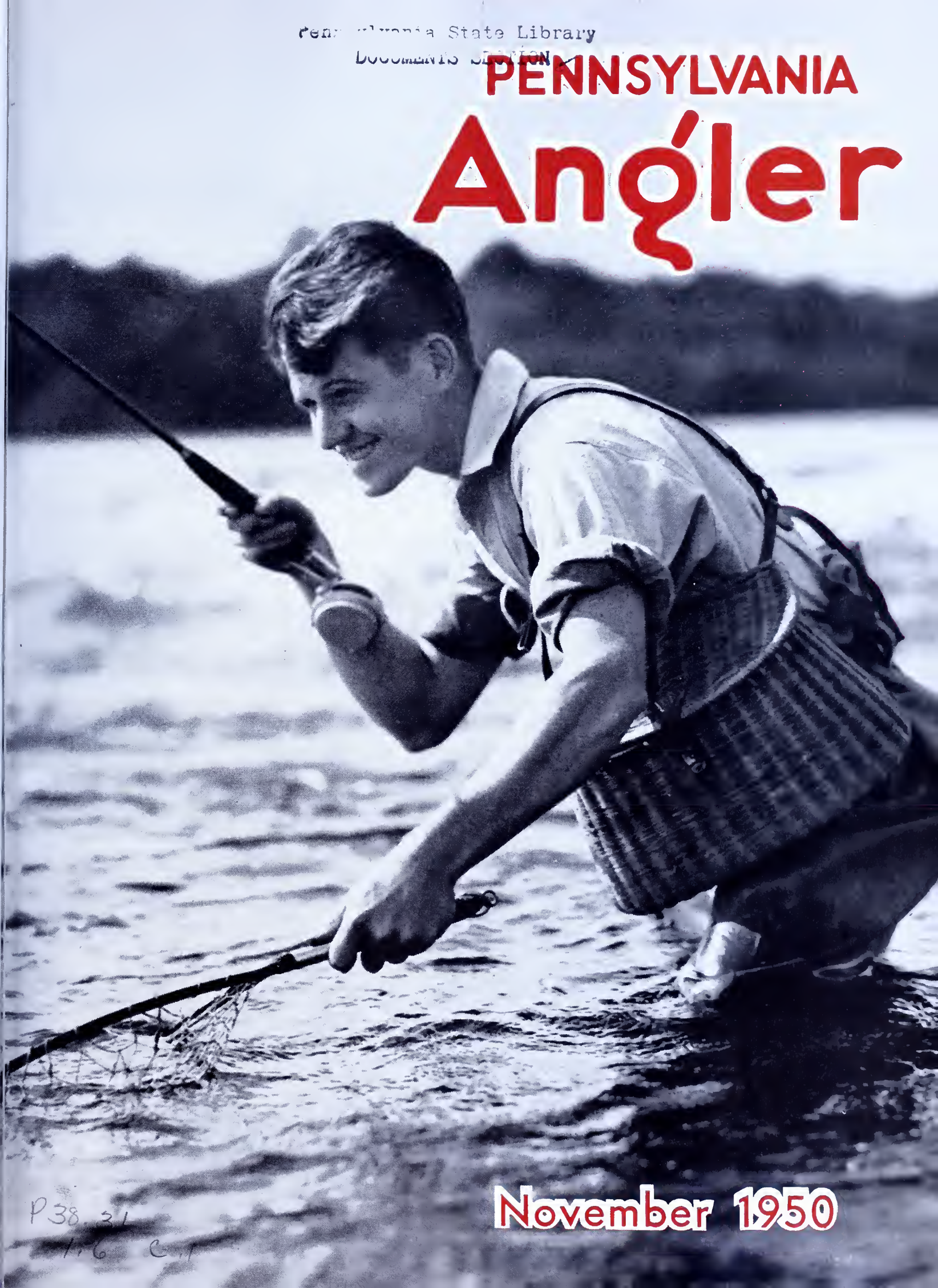

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PENNSYLVANIA
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The Angler

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The Cover . . .

Pleasure and relaxation—the reward of those who fish for sport.

—AMERICA—

Sure! It's A Grand Country!

IT'S A COUNTRY of noble mountains, wide plains, rich valleys, beautiful lakes, winding rivers, fabulous natural resources, recreational opportunities, and of varied climates.

IT'S A LAND of opportunity, of incentives, of challenge, of equal rights, of justice, of brotherhood and of good will.

IT'S A NATION of homes and happy firesides; of schools and colleges; of churches, and synagogues; and of fraternal kindredships.

IT'S A HAVEN for all, founded by faith and endurance; purchased by prayers and by tears; preserved by toil and sacrifices; and revered by millions at home and abroad.

IT'S A PEOPLE among whom CHARACTER is respected; VIRTUE is rewarded; and HONOR is finally bestowed upon those to whom honor is due.

IT'S A REFUGE to which countless millions from the four corners of the earth would gladly flee, if they could.

THIS COUNTRY IS YOURS AND MINE!

"To have and to hold"

HELP KEEP IT THAT WAY

Fish Management Program Progress

By Gordon L. Trembley

Chief Acquatic Biologist
Pennsylvania Fish Commission

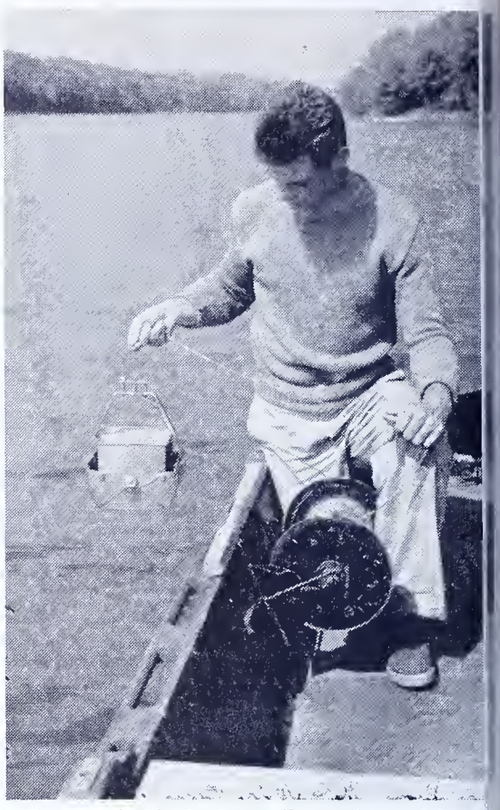
THE Fish Management Program of the Pennsylvania Fish Commission has now been under way for about two years. Here is presented briefly the reasons for this program and our accomplishments to date.

Although the word "management" is commonly used by all of us, the term "fish management" is newer and may require some explanation. The fish in our waters represent a crop just as do the rabbits in a field, the deer in the forests, or, for that matter, the farmer's cattle in the pasture. The farmer has learned that he can pasture only a certain number of cattle in a certain area. He has also learned that cattle will not grow well in a poor pasture. He manages his pasture and his herd so that he can realize the greatest amount on his investment. Certain principles of successful agriculture can also be applied to our fish crop. For example, we can make studies to determine the numbers of fish in a water area, how well they are growing and whether they are ecologically adapted to their environment. These facts are basic to a fish management program.

We have successfully managed the fish crop in our hatcheries for many years. Although such intensive management of fish is not possible in our larger public waters, we believe that certain management practices can be applied to these waters which will allow the fish crop to be more fully utilized by the angler.

Our initial effort in this program has been directed to public lakes since, first, we had very little information on our lakes and, secondly, since we believe that positive results in fish management are more readily obtainable in lakes than in streams. As our program develops, we hope to include the larger warm-water streams in our investigations.

There are, in Pennsylvania, in the neighborhood of 500 lakes and ponds. It is a satisfaction to note that the number of lakes is increasing annually —most of which can support various state agencies for it is a sure way of expanding our future fishing. Generally speaking, we can't add to our stream mileage except by reclaiming polluted or silt-laden streams and by purchas-



By use of this dredge, soil samples and botte dwelling organisms can be collected.

ing fishing rights on streams (to assu that they will be permanently open fishing); but a sensible dam-buildi program will augment appreciably t acreage of our fishable standi waters.

Our field studies, which are co ducted during the three summ months, are concerned with an inves gation of all factors affecting fish l and fishing in the lakes examine Some of the more important studi include:

1. Sampling the fish population netting. This allows us to dete mine the relative abundance of t various fish species.
2. Tabulation of the lengths a weights and a collection of sca samples from a series of specime of each species. Analysis of th data tells us the condition of t fish and how well it is growing.
3. Chemical analysis of the water.
4. Food habits study and an exan nation of the fish for parasites.
5. A creel census to determi whether anglers are removing fi in relation to the numbers know to be present in a lake.
6. Studies of bottom types and bo tom fish-food organisms.
7. Plankton studies.
8. Location and extent of importa weed beds.
9. Soundings and mapping.

These data, which are accumulat in the summer, are carefully studi later and recommendations for futu management are then drawn up.

The following is only a few of t

To determine the condition and rate of growth of each fish species in a lake, weights, lengths and scale samples are taken from a series of specimens.

ore important problems which have en uncovered during the past two mmers. Perhaps the outstanding oblem concerns the over-abundance various fish species. To state it iefly, we have found that certain fish ecies are not caught by the angler in cordance with the numbers found to present in our netting. This condi-n is particularly true among the pan h, i.e., the brown bullhead, the chan-l catfish, the crappies, the bluegill, d the yellow perch. Fishermen fre-ently complain that there are not ough fish in a lake to provide good hing. Our findings often show the act opposite—that is, that there are o many fish. In many instances, we ve taken hundreds of pan fish in a gle net capture, often to the amaze-ent of local anglers who either did t realize that they existed in such mbers or who were unable to catch em.

Now consider the normal fishing pat-rn as we have found it to exist on ost lakes. There is light fishing pres-re in the spring—mostly for the pan hes and with various degree of suc-ss. But when July 1 comes there is sudden influx of fishermen, most of om are interested primarily in the ajor game species; the basses, the lleye, the chain pickerel, the rthern pike, and the muskellunge. d this situation continues for most the rest of the year. Thus we are erfishing our crop of major game fish ile almost neglecting our pan fish.

Fisheries biologists have learned of basic principle governing fish popula-ns in lakes. This is that a unit area water will support only a certain undage of fish. Thus the condition st described of an overabundance of n fishes is bound to affect the major game species since, in many instances, the pan fish comprise too much of the total poundage of fish in a lake. If carried to the extreme, one can expect a gradual lowering in numbers of the major game species and eventual stunting of the pan fishes themselves.

The field laboratory is mobile and is set up on each lake.

What can be done about this situation? Proper management calls for a readjustment of the fish populations. We have already discontinued the stocking of pan fishes where they have been found overabundant. The crop of adult pan fishes must be harvested. Fishermen must stop thinking solely in terms of the major game species and learn to fish successfully for pan fish. Perhaps laws governing the pan fishes should be relaxed where studies indicate that their numbers are too great. If all of these fail, it may be necessary to reduce the numbers of pan fish by netting and to remove them to other water areas where they can be utilized.

Another problem directly related to fish populations is that of the presence of too many fish species in one water. This applies more particularly to some of our smaller lakes and ponds. It is not unusual to find in a lake, as small as 50 acres, most all of the species found in a lake as large as Lake Wallenpaupack. Thus in one small lake we took both largemouth and smallmouth bass, pickerel, and walleyes in addition to the usual run of pan fish. Our studies have shown that when so many major game species occur in a small lake, fishing results are frequently not as good as when only one or two are present. The introduction and spread of the walleye in some of the smaller lakes has brought about a lowering of the bass and pickerel populations.

To correct this situation is a difficult task and may require radical treatment. For example, walleyes can be reduced in numbers by trap-netting over the spawning beds. They cannot be entirely eliminated in this manner.

In some cases lakes become hopelessly overpopulated with one species of fish and this species becomes stunted —probably due to extreme food competition. The yellow perch is a common violator in this respect. Obviously, under these conditions, the lake is of no value to the angler and the sooner the stunted fish are removed, the sooner the lake can be utilized for fishing. This can be done by draining the lake (when possible) or by poison-

(*Turn to page* 18)

Determining the results of natural reproduction of fishes by shore seining.

Bass are Getting Wiser

By Dick Fortney

THE only individual who ever even intimated that a bass is a dumb kind of fish was one who never fished for the bronzebacks. So we are not reflecting on the intelligence of one of our favorite game fishes when we point out that—

Bass are getting wiser!

It's important that fishermen realize this fact. It will explain why they now regard as fished out some streams that used to produce lots of action. What is more important, it can lead them to enjoy again some of the thrills of bass fishing that they experienced years ago.

There is a certain fine stretch of water on the north branch of the Susquehanna River that for years produced some walloping big bass. They ran as heavy as four or five pounds. Some of them were taken on bait; others on artificial lures.

Naturally, the fame of this pool spread. The fleet of a dozen boats parked on its shores were on the water all the time, day after day, from the opening of the bass season until the advent of cold weather.

Two years ago the picture changed. The bass were not being caught as in former seasons. Some anglers who had been spending most of their time on this particular pool abandoned it in search of more productive water.

And right there they made a mistake. They didn't realize that perhaps they, rather than the bass, were to blame for the disappointing decline in the fishing in that particular water.

For bass still are there—big bass and much wiser bass.

One afternoon late last summer Ernie Hille and I went to this pool and spent three or four hours fishing a small section of it that we like particularly because it contains some fast water, some rocky shores, and some good pockets of deep water.

We each caught a couple of nice bass, and each of us also had the experience of hooking one really big fish. In addition, we had numerous strikes from small bass—all in all a profitable afternoon during which no other fishermen were in sight.

We proved the pool is not fished out.

And—to get back to our original theme—we also proved that the bass in that pool are wiser fish.

Three or four years ago an angler could drift around in the pool dragging a baited line and catch plenty of bass. Or he could float along the shores and coax bass to strike surface bugs and plugs.

The fishermen who frequented the pool used those methods so long as they produced action. Then when the strikes became fewer and fewer, as has

The author caught this three-pound smallmouth on a small spoon weighing a quarter ounce.

been previously mentioned, the vast majority of them decided the pool was fished out and sought better water.

That was their mistake.

Let us figure out what really happened. It's not hard to decide. The heavy fishing pressure on that stretch of water had made the bass in it wary and suspicious. They were constantly being disturbed by boats floating over their heads, by the thumping of human feet, by the splashing of awkwardly handled oars, and by the wide variety of baits and artificial lures cast, often with not too much skill, in their direction.

And it is not unreasonable at all to presume that in time the bass came also to recognize as dangerous frauds the live bait that was dangled before them on hook and line and the artificial lures that dived, swam, and plunked in their favorite feeding spots.

In other words, the bass did not become more scarce. They became more wise.

Ernie and I solved the problem by taking these facts into consideration and by changing our tactics and our tackle to meet them.

In the first place, we knew we had to keep as far as possible from the fish we hoped to catch, and we had to make the least possible disturbance while fishing the pool.

So we walked along the shores and waded very carefully instead of riding in a boat. And we selected as our fishing tools light casting rods, so that we could cover a lot of water even though we were not able to move all over the pool by boat.

We went one step further—and pro-

Two nice bass that took small lures in hard-fished waters in Northern Central Pennsylvania. The angler is Bill Morrison of Williamsport.

ly this was the most important of all. e used only the smallest, lightest res that we could handle with our sting equipment.

We had the greatest success with idget lures fished under the surface, though we also got some action, even this well disturbed water, by the use small surface lures.

At times we had to sacrifice pinint accuracy in the interest of disnce, but that was a deliberately anned part of our strategy of getting ir lures to fish that were not disrbed.

Particular attention was paid to two pes of water—several swift, broken ffles near the foot of the pool, and also e shoreline that had a long, rocky dge its entire length. Standing on ore at this ledgy section, incidentally, e had the experience of seeing bass ppear apparently out of nowhere to rike our lures.

Above all, we fished as carefully as e knew how. We kept on the shore henever possible. If we had to wade, e moved carefully. Every cast was hed all the way out, even if the lure dn't land just where we had hoped it ould. When a fish was hooked, it was aneuvered gently in the water. We ok advantage of every bush and rock camouflage us as we moved down e pool, step by step. And we thorghly covered every square foot of ater we could reach.

Our experience on the Susquehanna is not an isolated case, or it would not be worthy of discussion. Definitely, it is typical of what is happening on all of our bass waters. The symptoms are there for all to see.

The angler who likes to fish for bass with a fly rod and floating lure realizes that today, if he wishes to catch bass, he has to use much smaller lures than he relied upon half a dozen years ago.

The bass fisherman who enjoys casting at night with a surface plug also has had to turn to smaller lures, and at the same time he has found it necessary to fish his lures more slowly and gently.

The bait angler who once was able to tie a snelled hook to the end of his line, stick a piece of bait on it, and take a limit catch of bass without much trouble has found it necessary to use long, fine leaders and to get his bait to the bass with greater care.

It's a good thing that the bass have gotten wise to the ways of fishermen—good for both the bass and the fishermen.

If they had not, it is conceivable that our bass streams in time would have been fished out.

And anglers might never have learned the real sport of fishing for the battling bronzebacks with light tackle, light lures, and a delicate hand.

Big plugs will frighten bass, but midgets will catch them, in smooth, clear water like in his small lake.

The Rock Bass

Edited by

HOMER CIRCLE

When you were a boy, you no doubt associated two thrills with the old swimming hole . . . the pleasure of cooling off on a hot day and the fun of catching a string of "goggle-eyes."

The proper name of this bantam battler is rock bass, and a right proper little thoroughbred it is. It can make a bobber whirl like a dervish and then disappear in a flash.

Proud is the lad who presents mom and dad with his first string of rock bass. This humble but fundamentally sound beginning has started countless anglers on the road to a lifetime of enjoyable experiences in the realm of fishing.

Other names by which this fish might be known are: Bream, Goggle-eye, Redeye, Frogmouth Perch, Redeye Bass, Lake Bass, Redeye Perch, Redeye Bream, Redeye Sunfish, Rock Sunfish, Sunfish, Sunfish Bass, Sun Perch, Warmouth, White Bass and Yellowbelly Perch.

The rock bass is one of the easiest sunfishes to identify with its large, red "goggle eyes," big mouth, mottled coloration and stocky build.

It is olive-green on the back, becoming lighter and tinged with yellow on sides, belly yellow-white.

It is found from Vermont westward to the Dakotas, in Canada and southward to the Gulf coast and Florida.

In rivers and streams it lives around tree stumps, fallen trees, overhanging banks and in deep holes. In lakes and ponds nearly any kind of cover will suit the rock bass.

No authentic world record is listed but largest size is around 2 pounds. The average size is about ½ pound.

The rock bass feeds on flies and insects, crawfish, worms and minnows, and crustaceans.

Mainly, the rock bass is taken with hook, line, bobber, sinker, worms and cane pole. However, many fly rod fishermen and spin casters find the rock bass good sport.

Featherweight fly rods made of split, tempered bamboo in 7-, 7½- and 8-foot lengths are excellent. With these is used an E or F level line, a single action reel like the Imperial, and a 4- or 6-pound level leader.

Where larger lures are used, stiffer fly rods are necessary. Spinning rod devotees will find light action rods and small lures like the river runtie spook, punkie spook and midgit digit ideal.

Some bait casters derive much pleasure with 5½-foot extra light action tubular steel rods like the "Pal" or glass rods like the "Pal Spook." When used with a light, fast reel like the "Pal," together with a 4- or 6-pound line, small lures weighing ⅜ and ¼ ounce can be cast nicely and will bring in some dandy rock bass.

If ever a fish was designed for a boy, it is the rock bass. It also has much to offer in satisfying the fishing fever of light tackle users among grownups.

Fish cannot breathe long out of water because the membranes of their gills must be moist to act as absorbers of air from the water in which they live.

Ruin or Redemption?

By Oliver Hartley

FLOODS and their number one stooge Soil Erosion, have come into public calculations by sheer dictates of common sense. Strange it is that America has waited so long, with eyes wide open to the ruin in process here in our own country—and to horrible example in poor old China and elsewhere.

Floods do not originate where they put on their biggest shows. They do not spring full-fledged into their rampages in the big valleys. Floods are born by the gallon in the way up tributary systems. And that is where greatest losses to our economy occur—in fact, says the U. S. Soil Conservation Service, in any stream flood the loss from soil erosion is four times, and from fertility loss six times, the damage done by the river in other quarters. Much of the damage is done before the water ever gets into the river. After that the up-stream farms may be seen going by.

Damaged cities and flood-swept habitations can be replaced, but the soil from which the "fat of the land" has been skinned by a stampeding water, is eventually more than a total loss as it becomes a secondary destructive agency in the form of silt. The flood damages down stream are tangible losses and appear greater, but soil losses are, like hidden taxes, paid for and no value received.

"Soil," says one authority, "is the farmer's capital, and the legacy he leaves to future generations." Soil erosion is short-changing Ohio alone of an estimated hundred millions of dollars a year in lost productivity.

It is high time for farmers and conservationists to join forces with river engineers; otherwise it will ever be a losing battle. Dams, no matter how big, how small or how many, cannot do it alone. Thousands of ponds, resurfacing with vegetation, reforestation, contour cultivation and new methods yet to be discovered, will be needed in the welfare as vital to America as wars overseas to preserve our freedom.

We cannot here go into flood control in all of its phases. The Army Engineers and the Federal Bureau of Reclamation, in their big dam building programs, as the Wildlife Management Institute points out, have one enemy which they have been unable to defeat and which must lead to drastic modification of future river programs. "In spite of their efficiency and mechanical genius, despite their recognized ability to move mountains and change the course of rivers, the Engineers have not been able to conquer silt," the Institute points out.

Silt is more than mud. It is the displaced, rich top soil of thousands of American farms, grazing lands, and watersheds. Yesterday, the top soil equivalent to that on 200 forty-acre farms flowed into rivers; today the same amount will be lost from the land forever. It will cover spawning grounds of fishes, clog reservoirs behind multimillion dollar dams, and raise river beds between costly levels. Since the Engineers do not know how to attack it, they try to ignore it or to use it for obtaining higher appropriations. When a reservoir fills, a new dam must be built; when navigation channels clog, they must be dredged; when floods occur, caused by the same mismanagement of the soil that causes siltation, levees must be built higher. Except for this, all the Engineers can do is dredge and straighten river channels and rush the silt load out to sea as quickly as possible.

Such a program has foreseeable limitations. Levees and dams can be built only so high. There are limits both to the number of suitable damsites and to the taxpayer's burden. Eventually, the public will realize what the Engineers seldom admit publicly—that the real management of rivers begins in the headwaters and on the hilltops, that silt can be defeated only by keeping it in form of soil through good land management. The present alarming rate of siltation of resevoirs calls for a prompt reappraisal of our river development program; for forcing closer cooperation between the Engineers and the Soil Conservation and Forest Services—both of which are more than willing to meet the E gineers halfway.

"Billy," four-year-old son of William L. Kerbaugh proudly displays the 27½ inch Susquehanna Walleye Pike caught by his father on September 25 from the Conodoguinet Creek. Kerbaugh used a stone catfish for bait.

Credit is due the Engineers for t manner in which they tackled t Muskingum Watershed water cont and the outcome as exemplified in t dozen magnificent reservoirs providi public recreation as well as squeezi flood potentialities out of raging el ments. Why not carry these lesso well learned to other sections of t country instead of blind experiment tion?

It seems logical that farmers a conservationists operate under beni partnership since mutual welfare so interwoven. While conservationis are especially interested in wildli usable waters, forestry, recreation a natural resources other than far crops, they cannot advance their i terests without a helping hand to lan owners. Conservation has far outr the old version of hunting and fishi as an institution sufficient unto itself.

Flood control can directly bene wildlife by providing clean wat when and where needed; prevent d struction of countless thousands ground dwelling animals and birds overflow; provide liveable habitat woodland, field and stream; provi provender—in short restore nature unhampered methods.

Headwater lakes seem the soluti of fish propagation as well as fresh control, and a valuable contribution recreation, which is coming into t outdoors picture throughout the cou try in a big way.

Landowners, tradesmen, conserv tionists and many others may well a ticipate increased benefits in ma ways from expenditures made Americans at play.

No matter in which direction start off in conservation discussion must come back to soil conservatio The conservation of soil and water as imperative as shelter and suste ance our economy, because th are the parentage of existence. Tho elements are the foundation of surviv and no one wants to see them wash away. But that very thing has be happening. Former Secretary of Ag culture Wickard declared in a pub address: "Let me tell you . . . wh erosion has done to us. It has ruin for any further cultivation some fif millions of acres of cropland. That equal to all the land in Maine and Ne York, and equal to, at least, one-eigh of our total present cropland."

The question is often asked w farmers need help to conserve the soil when soil conservation is such obviously good thing that the avera farmer ought to do it himself in h own best interests. The answer is th

(*Turn to page* 24)

FUR FEATHERS AND FLIES

BY Albert G. Shimmel

ONSERVATION has been defined as the wise use of any natural re-ources. In its application it is com-letely opposed to waste both in theory d practice. As many anglers are also nners the utilization of fur and ather by-products of days afield is a uty as well as a pleasure.

If you are not a fabricator of your wn angling lures do not hesitate to ecome a collector of the materials that ll to your gun. Many anglers can use em and will probably exchange flies r their value. Let us enumerate me of these materials that we may etter keep them in mind.

One of the first open seasons of the ear is on Woodcock. Their primary ght feathers provide material for a riety of wet fly wings where the pat-rns are my favorites for the wings of lue Dun, Led Winged Coachman, lack Gnat and similar patterns. They ssess the advantage of being soft and us give a better action in the water. e Greater Coverts are attractively ottled in black and brown and pro-de an attractive wing for small March rowns and the English Wood Cock ries. These flies are very effective t not widely used. The Tail Coverts e fine for use as hackle for nymphs d wets. Their softness gives any fly d with them an attractive creepy otion in the water that most trout d it hard to resist. These same athers form excellent toppings for reamers that require a dark top ather.

While dove feathers are not particu-rly suited for trout flies the flight athers are colored exactly right for e Beaverkill. Most of the doves have t Pennsylvania before the season ens, yet it is possible to obtain a few these sporty fliers if the grain stub-e fields are given special attention.

Old John Pheasant provides a varied pply of feathers for trout, salmon and ss lures. The tail feathers have fibers their base that are particularly ited for the tails of drakes and May es. In fact the skin of a ringneck is nost a must for the fly tyer's kit.

The ruffed grouse is not ordinarily ought to be very valuable to the fly er, yet in his broad fan are some ex-llent wing and tail materials for the gler. Perhaps the most valuable of his feathers is the crest which pro-les unexcelled legs for nymphs and ckle for wets requiring black and own barring.

The wild turkey is a bird that also provides the material for a wide number of patterns. Also by careful steaming the quills of the smaller feathers may be stripped to provide an excellent and durable body material. The ends of the flight quills may be cut and saved to provide a base for building bass bugs, grasshoppers, crickets and quill minnows.

Water fowl have long been the fly tyers stand by for wings. The flank feathers of teals, mallard and the wood duck are so well known that they do not require comment. The breast feathers supply fan wings in a variety of colors. The crest of the wood duck are valuable in that they supply long narrow feathers for streamer flies. They provide natural black and white stripes that are essential to many patterns. The white can be dyed a variety of colors for use either on trout or bass lures.

The ever abundant coot is one of the most valuable birds in the eyes of the fly tyers. Its wings are a must for such dark flies as the Iron Blue Dun, etc. As coots compete with the more popular waterfowl for food a reduction of their numbers is considered necessary by conservation officials. Coots are not at all bad on the table if properly prepared.

Among the predatory birds the crow and the Horned Owl are the source of feathers essential to the construction of flies. The crow provides the black feathers for wings and shoulders which are a part of many patterns. Owl feathers have a Marabou like quality that form the main attraction in some streams. The stiff hair-like feathers from the bill of the owl make ideal nymph tails. They are almost indestructible and in combination with a quill body form a most attractive nymph. These nymphs kept my friends guessing for a long while as to the source of the feathers. The stiff central quills can be spread easily and have a very life-like appearance. The sparce side fibers are soft and move easily with the action of the water.

Practically every game and fur-bearing animal contributes something to the fly tyer's art. When you hunt the lowly cottontail be sure to save some fur from the nape of the neck in addition to body fur. The blue gray under fur of the bunny furnish the bodies for Blue Duns. Cahills, etc., and the neck fur has an orange brown coloration that is perfect for March Browns. We tie a wet fly with the neck fur, body ribbed with medium gold tinsel, brown mottled turkey wing, two grouse tail fibers for a tail and a plain brown hackle. The trout have shown a preference for this pattern. We have tried it on a cast including two other similar flies and find the trout have a decided liking for it.

A fishing pal has a pattern made with an opossum fur body, mallard wing and brown hackle that has a local reputation as an early season killer. The body of this fly is tied rather rough and gives the effect of a nymph when fished dead drift. In the hands of its originator it is a deadly lure.

Squirrel tail, buck tail and black bear furnish long hair for big flies. The body hair of the deer is the raw material for the bug makers. Many of the small clipped hair bugs are effective for trout at night.

Of the fur bearers red fox is perhaps the most important. The Light Cahill is perhaps the most popular pattern among dry men. The red fox produces the creamy buff dubbing for the body.

Another animal that furnishes a material not used as much as it should be among fly tyers is the porcupine. The quills are white and brown in lengths of approximately two inches. These form very durable and practically indistructable body material for nymphs and quill bodied flies. The white quills can be dyed any color to suit the fancy of the tyer. Incidentally the long brown hairs found among the quills make very effective streamers.

The pleasure of angling and hunting lies not so much in the fish and game destroyed but rather in the solving of the problems that lead to a successful capture. It becomes our duty then to be satisfied with a very modest bag and to utilize it to the fullest extent. We can then sit down and savor our memories of sport to the full without regret knowing that we have lived up to the creed of good sportsmanship.

The Bass Made Whoopee

By Thad A. Bukowski

THE SUMMER was progressing nicely. My brother and I enjoyed being out of school because we spent most of our days fishing. At that time, in the middle 1930's, the fishing in Lawrence County was mighty good.

Take for instance Cinder Hole in the Big Neshannock with its prize bronzebacks. You could catch yourself a smallmouth almost at will—that is, if you threw out a nice crab into the swirling eddy. Then there was Cement Dam, also a place where a kid could spend many a pleasant day out of trouble, visiting with the lunkers located beneath its lily padded and moss strewn waters. I can remember any number of six pound bass taken out of this artificial lake on both natural bait and plugs, but mostly on minnows, for they were largemouth, and the largemouth there couldn't resist this latter delicacy.

But the best bass fishing that we as kids ever did have in Lawrence County was at the Cascade Park Lake.

My brother and I took part in the usual preparations. We caught crawlers the night before, or perhaps it was one of those days when we stole our mother's dry mustard. We'd concoct a water mixture of the stuff, head for the worm casts found under the apple tree in our back yard, and pour tablespoonfuls down the holes after we had cleared the casts away, then watching the frantically crawling worms, we'd nab them. We would wash them, then pack them away in a cool can somewhere in the cellar for the night. We'd also get our favorite lake bass bait—minnows. As modern Huckleberry Finns, we were pretty good.

I was two years younger than my brother and always gave him a hard time, now that I can think of it. He worked harder at catching the minnows—he lugged the heavy seine, and I just rushed the minnows into it. He also had to carry the most equipment, pack our lunches if we had them, and if we caught fish it was his unpleasant duty to clean them all and prepare them for the eating. THEN I'D EAT THEM. As brothers, however, we had many, many pleasant fishing adventures and grew up happily together, even though I was the black sheep.

On this occasion we took our equipment, started from Hamilton Street in New Castle, and headed for the Cascade Park Lake, which, periodically would supply us with a bass, two, or three, to make our ventures successful. We lugged our equipment, around the "Four Bends," where the street car had once had a sort of excursion line to the park, since discontinued, and approached the glistening body of water after about a two mile hike.

As kids we swam in it when the park guard was not on duty. It had a deep channel running close to the north shore, about twenty feet deep and we even climbed the trees bordering this shore and dove to its cool depths. Hemlocks, hanging close to the bank, heavily wooded the south side, so much so that it made for poor fishing. But similarly, this kept many a big denizen from getting caught and so kept us all at our fishing, knowing that the lunkers were still there.

My brother stationed himself on the west end, near the spillway and I settled down to fish near the overhanging trees that grew close to the deep north channel. I threw in lines, one baited with minnow and one with crawler and waited. My brother did similarly.

Other fishermen began venturing forth lining themselves around the lake, chatting, smoking, and enjoying the fresh morning air. An occasional splash on the lake would meet with the remark "Boy, that was a big baby" and then everything, but for the croak of the frogs, would be peaceful.

The fish weren't biting!

We sat around, changing bait, as kids impatiently do and when nothing happened still, we watched the sun creep over the trees around the park swimming pool and begin to tickle us with warm perspiration. Millions of tiny frogs swarmed to the shore to s basking in this morning sun. W couldn't understand as kids whe they all came from but they we there, literally millions of the spreading their jeep! jeeping! sound

My brother picked up his line headed past me and I asked:

"Where ya headin' for?"

"Up the end and then over to th island. If I don't get anything the we'll go home." I acceded and h passed on to station himself first at or spot by the boathouse and then ov to the other side and the island, whe boy scouts had built a cabin.

I pulled up my one line, attached battered home made bit-of-broon handle plug, a number of which w kids all carried in those days, ar began to cast. We had been catchir bass during the evenings, pluggin and so I thought that I might lure bass out of anger alone, by jiggli and jerking with many speeds and a tions. But no success. The bass we still listless.

I could see my brother approachi the island from where I plugged. watched as he tossed in line the rested on his haunches waiting for a tion. Shortly thereafter, he got dow on hands and knees and began maki stabs at the shoreline. Was the he getting him, I wondered? Was h crazy? I was relieved to see him wa to his line, wind it in, check bait, thro minnow away, rebait, then throw again. He must be using a frog,

The leaning pines where the bass made whoopee.

Many fishermen lined the lake shores.

hought—one of those millions of little rogs, the crazy nut. Nobody ever used rogs around here. Oh, yes, you occasionally heard where some fancy-ants fisherman caught one at the 'rench Creek or on the Allegheny on rogs—yes, but Lawrence County? He nust be crazy.

Crazy! My eyes popped! The other hore was close at this point and I topped my plug halfway through a ast to watch my brother start feeding ine tensely almost as soon as his frog it water. Was that frog fooling him vith its action? I held my breath.

He yanked. His pole bent, and I vatched spellbound as he horsed in a ass.

I waited anxiously as he got down n hands and knees again and stabbed hat shoreline.

He rebaited threw in and waited. Nothing happened. He began setting ole down on willow prong, inserted nto the shorebank, when I noticed him atch himself up short, furiously feed ine and yank. There was a slight explosion a distance out in the lake and e reeled furiously. Another largemouth struggled for freedom, but struggled in vain.

I headed for my poles. I wound my lines in as fast as I could, gathered up my equipment, and raced around the upper end of the lake, crossed the bridge and struggled down the path along the hemlocked shore. I crossed the stone dam that had been built to the island and breathlessly came upon my brother.

The fool was pulled in another bass! "You lucky dog!" I exclaimed. He scarcely nodded for his pole was arched and the fish jumped two or three times shiveringly spraying water about, trying to spit the hook. But it didn't succeed. Shortly he reached down and had a gasping bass about fifteen inches long in his hand.

"What you get them on, frogs?" I horsely queried. "Them frogs around the shore?"

"Yaa! They're hitting them like mad," he answered, busying himself with his stringer.

I raced frantically about the island trying to paw a few small frogs. When I caught one I'd put it on my head under my hat, as we kids did with our crayfish, and when I had a couple, I headed back to my place near the leaning pine where the bass had begun to make whoopee!

I reached up under my hat, grasped a tiny frog, hooked it by its lips to my leadered hook, swirled the line around cautiously and tossed the frog near the weedbed which grew edging toward the lake channel. A gentle splash settled on the murky green water, as the frog rested. Then it took two or three wobbly jerks towards the weeds.

The frog never made it! The water swirled near the surface and I was caught napping. My reel was spinning and hastily—too hastily, I applied thumb pressure. I could feel the hook set, as my finger warmed, then the line went completely limp. I wound in, heart beating a pit-patter and anxiously rebaited my hook.

My brother pulled in his fourth bass!

I threw in again, and the water boiled in no time. I fed line, whipping it off my reel as rapidly as I could, then held my pole out letting the line stretch, so I'd know what direction the fish was taking and jerked.

My pole strained and remained bent. I reeled nervously trying to keep line taut. The bass skewed to the right then jumped for all it was worth. I set it back into the water on its hind flipper, keeping the line tight and worked it cagily to the shore. It spewed water in my face as I reached down for the gaping, working jaw and then I too had a nice largemouth, over a foot long—my first one.

My brother in quick succession caught number five, six, and seven. In those days the limit was ten and he was fast approaching it.

Meanwhile all the fishermen around

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The bridge at the upper end of the lake.

Trout Take Grasshoppers!

By William Boyd

"THEY are taking grasshoppers!" This terse bit of information from a fellow angler who is a typical member of that great fraternity of sportsmen who find pleasure in telling others helpful things they have learned along the streams brought me considerable profitable angling in early June of this year.

It was Harry M. Miller who gave me this tip on what the hungry trout were feeding upon in the stream to which he directed me. I had known him only a few weeks, our mutual interest in things pertaining to the rod and line having brought us together. At the beginning he had done me a big favor and now he was helping me again.

It was early in the morning of one of the few pleasant days early June provided that Nick and I set out for the place where Mr. Miller said the grasshoppers could be found in great abundance. And, sure enough, there they were, literally thousands of them making their elusive jumps from weed to weed as we attempted to capture them.

I had provided myself with a small, screw-top bottle into which I put the little "hoppers" of the black, green, yellow variety. In less than a quarter of an hour Nick and I had all the bait insects we were likely to need that day, so we drove on to the stream where my friend had found the trout were voraciously seeking grasshoppers.

Admiring the bright pink stripe on the rainbow's side.

I had prepared special "riggings" to use with my grasshopper bait. Acquiring a coil of two and a half-pound test nylon leader, I had cut five- or six-foot lengths and tied size 12 fly hooks to the one end.

The grasshoppers, I decided, would be fished much like dry flies—on the top of the water. While he, too, had a quantity of "hoppers" in a bait box, Nick, who is a confirmed dry fly fisherman, said he would start with dry flies.

That was the last I saw of Nick until just before noon, when we met at my car to have lunch. Incidentally, this lunch was in an ordinary workman's lunch pail, the metal kind with a thermos bottle fitted into the inside of the lid.

This lunch pail, I have found, is just the thing to use when going hunting or fishing. It prevents the sandwiches and fruit from being crushed and keeps the items of food together in sanitary covering.

Knowing we would be a couple of extremely thirsty fishermen if the day turned hot, which it did, I had taken an extra thermos of chocolate milk along, so both Nick and I had plenty of cool liquid with which to wash down our moist sandwiches.

We compared catches when we met at the car, and I learned Nick had one more trout than I had, but my fish were considerably larger than his, a definite indication that the larger trout were hungry for the grasshoppers I was using.

We took plenty of time to eat our lunch and then went to the edge of the stream to clean our catch, meanwhile exchanging fishing experiences with a couple strangers who happened along while we were eating. They had only a few fish between them, so I advised them to switch to grasshoppers as bait.

In the afternoon the trout in that particular stream really went for grasshoppers in a big way. However, there must have been a major feeding time during which they struck anything that resembled food, for I learned later that Nick, too, had a full measure of sport with his dry flies.

It was in a stretch of deep, swift water just below a point where a tree had fallen across the stream that I caught my first trout. I had floated my grasshopper down this current only a few times when a fish smacked it solidly and I started bringing him in.

We cleaned our trout after a leisurely lunc and a chat with passing anglers.

I'll never know if my small hook pulled out of his lip or just what happened, for at the moment I slipped my landing net toward him he gave a lunge and was gone, a good 12 inches of nice trout.

Concluding there would be more than one large trout in this swift water I attached a fresh grasshopper to my hook and let it float naturally toward the end of the pool. Sure enough, I had another strike! This fish, which tore around with amazing strength and speed, I handled with great care and I was glad I did for when I landed him I found him to be a beautiful native brook trout almost 11 inches long His coloration was beautiful, his fins being a bright red and his belly a delicate tint of pink. I knew he was a native trout, for brookies hadn't been stocked in this stream in years.

Only a hundred yards or so below was another pool at a bend of the stream. Here the water moved swiftly past a submerged sapling which apparently had fallen into the stream under the weight of snow and ice which had wrecked havoc in our forests late in the preceding winter.

I floated my grasshopper past this submerged tree and up came a nice trout from beneath the sapling. He missed the bait on his first lunge at it and darted quickly back to his hiding place. Again I dropped the "hopper" on the water just above the place

here the sapling lay and again the ngry trout came up for it.

This time he took the bait at one lp and carried it with him beneath e submerged tree. He was securely oked when I lifted my rod tip and ought him to net. This one, I found, as a heavy, broad rainbow trout, hose pink side stripe was brighter an that of most rainbows I caught at day.

Just below the end of the submerged ee, the stream widened into a deep ol. Here the current was sluggish as swirled to the east bank and turned est again to become a shallow, swift ovement. My grasshoppers perrmed faultlessly in this pool. They cked vigorously on the broad bosom the stream and were carried at just e right speed to be enticing to the ngry fish lying on the bottom of the ol.

It was perhaps five or ten minutes fore I had action in the pool. As a out or two began to rise in the shalw water below the hole those in the ol started feeding. An 11-inch brown out took my "hopper" from the top the most placid part of the pool and made quite a commotion in the ater before I got him out.

I decided to try for the trout rising mediately below the pool, meanwhile ving the deep water and its trout a ance to become calm. I made a long st with my vigorous grasshopper, d a trout struck at it almost instantly. owever, he didn't take the bait this ne and I retrieved it and tried again. The bait floated to the end of the ngth of line I had out when he took nother smack at it. I hooked him ithout difficulty and brought him in ly to find he was a brownie about ½ inches long. I'd put him back to ow to greater size, I concluded, and erated him carefully, the small hook ving merely penetrated his upper lip.

Nick put in an appearance about this ne and I rested for a period while I atched him as, with left-handed dexrity, he threw that Light Cahill of his amazing distance. He was unusually ght-hearted, for he was catching fish a fly he had himself tied.

Only a week before he had tied his st trout flies and he was proud of his oduct. And he had reason to be, for e Light Cahill he had fastened to the d of his tapered line and leader was eceiving one trout after another, proof at he had imitated nature successlly.

Nick hooked three trout while I atched but he kept only one of them, ten-inch rainbow. The others he reurned carefully to the stream, for this shing companion of mine believes sinrely in conservation of fish life and as no patience with so-called sportsmen who handle small trout roughly.

The hot sun had both of us pretty badly burned and exhausted so we decided to call it a day and try again some other time.

A week later I accompanied George to this same stream. It was at his suggestion that we went, for he had seen my catch and was impatient to have a try with grasshopper lures.

It was early afternoon when we reached our destination. The weather was dismal, a light fall of rain continuing after a night and morning of precipitation. In fact, we were fearful we would have difficulty in finding grasshoppers in the water-soaked field.

To our surprise and delight grasshoppers still were there in abundance, and we quickly had all we would need that afternoon. When we reached the stream we were chagrined to find it was high and somewhat off-color. Further, anglers we encountered reported only indifferent success.

Dry flies, they said, weren't in the least productive and what fish they had they had caught on worms. George had brought with him from his farm a can of lively red worms, but we determined to try grasshoppers first, they having been so effective for me on my previous trip.

We started fishing on opposite sides of the creek and were within sight of one another for several hundred yards, a fact for which George was to be thankful a half hour or so later. Neither of us had any success that first half hour.

Two anglers whom we passed on our way down stream weren't too enthusiastic. Both said the stream was too high. One, however, had a few fish which he had taken on worms. He caught them, he said, by dropping his bait in the eddies and other quiet sections of water.

By this time we had reached the bit of swift, deep water where I had caught my beautiful brook trout the week

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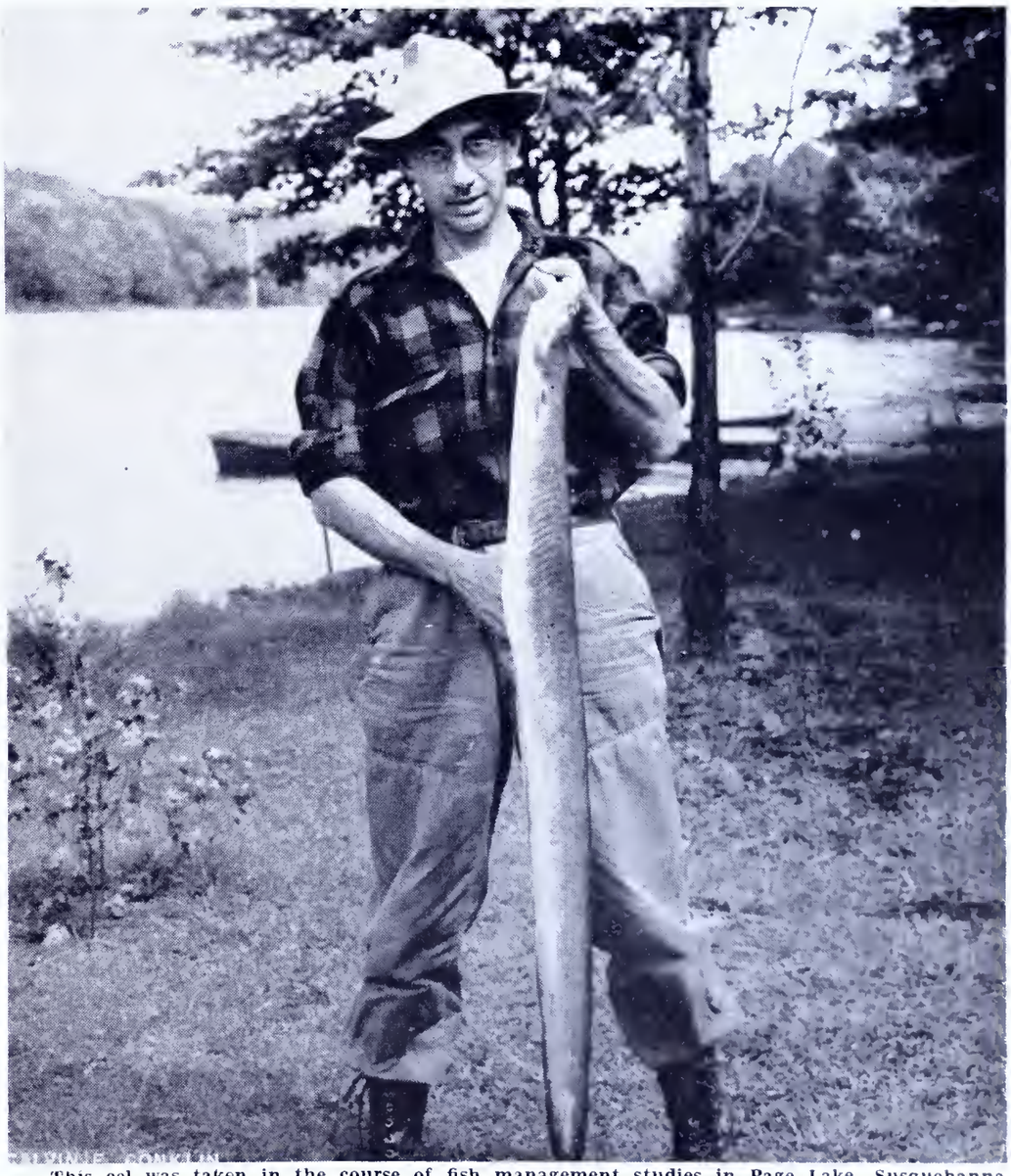


This eel was taken in the course of fish management studies in Page Lake, Susquehanna County, during the summer of 1950. The specimen was 47½ inches long and weighed nearly nine pounds. This was perhaps a land-locked individual which would account for its unusual size. Adult eels must descend to the sea to reproduce. The high dams in some of our rivers now prevent young eels from migrating upstream into waters where they were formerly abundant.

Stream Improvement You Can Perform

By Robert L. Rineard

IN THE interest of perfecting better fishing, it is little things like stream improvement which will provide the means to achieve this goal.

Perhaps you will have noted in your many trips astream that some sections of water produce more effectively and regularly than others and you no doubt wondered if there was not some logical reason for this.

Of course there is, the two major ones being either absence or presence of good food and cover. Without these two major items a fish will not long remain thereabouts, but will turn the proverbial tail and look for better surroundings. There are exceptions to every rule but the average fish likes an area where there is some deep water, large rocks, a run of currents, overhanging brush, and a stray log or two under which to lurk.

Nature takes care of approximately sixty per cent of the average streams with the heretofore mentioned items, but what of the other forty per cent? With our ever increasing army of fishermen, it is necessary to make use of every possible mile of stream available, to fish and fisherman. Thus it is the duty of every fisherman to lend a hand to help keep his sport at the top where it belongs. "Stream Improvement" sounds like a big important phase, doesn't it? Important, yes, but not big, not when every one lends a hand.

You will have to use some muscle and effort, sweat a little too, but the reward is far more enticing. Your tools are not bulldozers or steam shovels for you are not undertaking the Schuylkill River project. All you need is a few small items such as: an axe, shovel, rake, hatchet, saw, hammer, boots, etc.

The first job is to locate or recall from past experience an area of stream that could use some attention. Perhaps that big flat you fished over many times, with little results. Sure there were plenty of minnows but no big fish. Just wasn't deep enough and too little cover for the game fish. So you have located your first project, a long shallow pool on a small trout stream. Being mid September, you are sweating a bit as you lay down some of your tools.

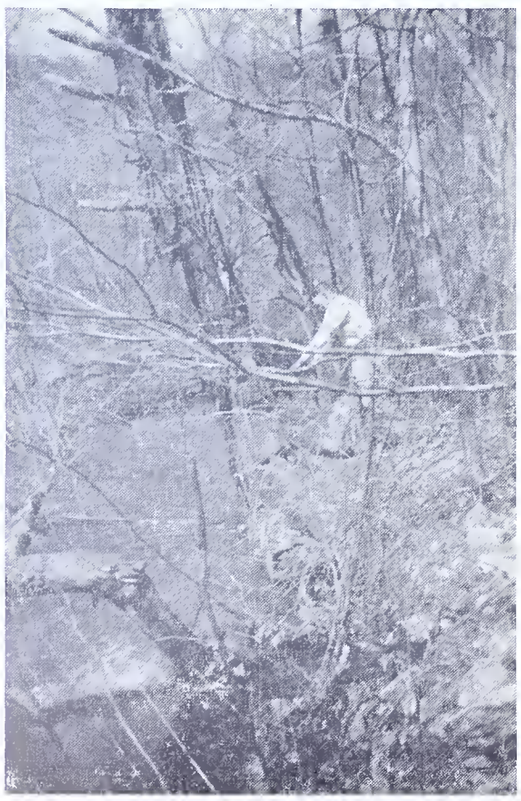
As you stand on the bank watching a few chub raise for a fly or two, your imagination pictures for you a deeper pool and instead of September it is May and instead of chubs those are brook trout raising out there. For a few brief minutes you are spellbound but you soon realize if this is to be, you must aid nature to fulfill this dream.

Carefully now you scan the surrounding area for a hint as to how to begin your project. On the opposite bank is a large log deposited by high water a few years before. After a lot of effort you have the log into the stream. Finally maneuvering it across the current with one end resting on the far bank as an anchorage.

To add to the anchorage, on the opposite side you pile large rocks. Now both ends are secure and the front needs attention. More rocks and some bush are filled in the front until finally the water in the pool is raising. Before long it has risen a whole foot and it is beginning to look very good. Also the open end is already making its own spillway providing a fast rapids over the rocks below.

The first step completed you sit down on the log for a smoke or perhaps to rest. The next move is to examine the pool for proper cover and if it is lacking, provide it. Wading up through the center of the pool it is easy to notice the lack of cover.

On the bank you find another log, only this one is much shorter. It will serve the purpose perfectly. Placing it at a right angle from the bank make it tight with wire, and place some large flat rocks on it to hold it secur These also add to the cover.



Here the author is shown working at his pet project.

The second such harbor can be cor structed by merely putting a few larg rocks in various spots in the poo blocking them up with other rock thus giving it a bridge-like effect. B sure the rocks are set solidly or els they will sink in the mud with the firs high water. The main thing to remem ber is to place your constructions s that high water will aid rather tha hamper your efforts.

Proper cover having been taken car of leaves only the last few but impo tant finishing touches. First to add t the strength of holding the log in plac you can drive some second hand piece of (inch or longer) pipe in front of th log. This will act as excellent suppo but can only be used where the roc formation is such that it will perm driving them into the stream bed.

Last but not least check and be sur you have an open spillway which wi permit any movement of fish up c down stream. This is a law and shoul be well considered. Three or fou inches of running water is sufficient fc the average fish, but don't forget t allow for low water conditions. Hig water of course will take care of itsel Large dams are not necessary, an mean a lot of extra work. The purpos only being to raise the water level a much as a foot or two, thus a sma dam will suffice. Digging holes in th stream bed with a pick or bar and re moving the underlying rock and san to improve depth is another method providing pools. However, this metho is sometimes detrimental if not handle properly. For example, once you dis turb the natural bed of the stream, continually shifts the sand and grave to the deepest spot you have dug, ac ing the same as water seeking its ow level. Therefore, you may have a hol three feet deep but in a few month or a year, it will be practically fille with sand again. Then if you dig out again and at the same time distur more of the bed, the same process wi again take place.

If you do use this method follo these suggestions and you will me with more success than I did on m first few tries. Prepare your hole an let it settle, being careful not to distur the area above the hole. Then tak pains to keep the current flowing ove the hole, so that high water will hav a tendency to keep the hole free excess sand. Remember the less yo disturb the bed of the stream the be ter because once these little rocks a disturbed, it takes quite a while for th

Here old logs and a tree stump help by form-
g shelter, note the water diversion.

quatic life to settle back to normal. herefore, a pool of this type is of no alue for a year at least, until the bot-m again begins to look natural to e fish.

Deflectors are another great aid in ream improvement and are comparavely easy to build. Their purpose is deflect the current into a more derable place. For example, you may ave occasion to deflect the water nder an old stump in order to imrove the hole. Deflectors can best be onstructed by piling up rocks at a ght angle from the bank or in a V hape which forces the flow through e V or around the end of the right ngle deflector.

Stumps next to logs are of top imortance for cover and should be given very consideration for any possible se. Where ever useless current can e divided by or under a stump, a ood hole and cover will result in short rder. I can recall one spot on a bass ream where the water was very poor r a long stretch, yet every year someie would take a large bass by a large ump in the middle of the flat. This es to show that cover counts.

Felling of trees is an excellent urce of establishing needed cover nd depth to the stream. However, let e offer several words of caution on is method.

First of all cut only timber which is n your own property or have verbal nsent of the owner of the land.

Secondly cut preferably dead or disased trees, for many people would not onate a good saw log for this purpose nd the former serves just as well as the latter. Above all, never cut any tree which is on state land or you will be subject to a fine. This method of establishing cover while being very good is not always available, due to lack of suitable trees along the stream or consent of the owners.

Another thing to remember is not to fell trees in such a manner that high water would cause flooding to someone else's property.

After taking these things into consideration and securing the proper permission, you can fell your tree. Be sure to know something about cutting down a tree before you begin. Make your under cut on the side you want your tree to fall. Cut into the tree a few inches depending on the size of the tree. A tree twenty inches in diameter should have at least a four to six inch undercut. Make your actual cut approximately two to three inches above the under cut and on the opposite side of the tree from the under cut, or side from which you want the tree to fall. When cutting a big tree be extra careful for sometimes the butt will jump when the tree falls. When you hear the first creak or crack, that is a warning. Be alert and watch your tree, keep your eye on the top, it will begin to sway before the final lunge. Yell "timber" if you want and stand clear.

Once the tree is across or in the stream you don't need to do any limbing unless, the limbs are holding the main body of the tree too far out of water to suit your purpose. To assist in holding the tree in place employ some more old pipe and stake it up in front. To hold a large tree you should have five or six foot lengths of inch or better pipe.

Drive these in about three feet apart. Four or five should do the trick. Now let nature take its course. As high water washes drift behind the key log, it will soon develope into a nice pool.

Aside from the physical improvements of the stream are the so-called personality improvements, not the stream's personality, but yours and mine the fishermen. Actually the personality of Mr. Fisherman has more to do with the population of the stream, than any other contestant. With him rests the fate of his sport, for in his ever increasing numbers, he is a harvester of the stream crops. Upon what we do as individuals, and how we teach our children the morals of conservation, rests the future of fishing.

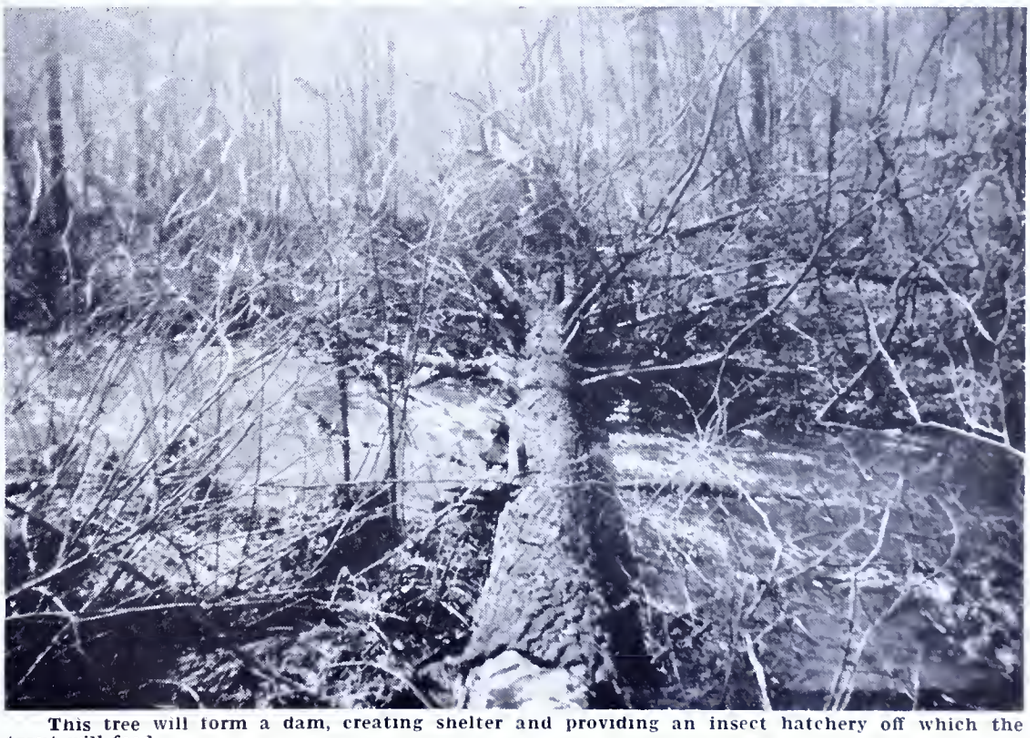
Mr. Fisherman, do you understand the phase, "If you want to catch more fish—kill less?" It means that we must implant into our hearts the desire to go fishing without the desire of coming home with a full creel and to sustain from taking our legal limit of fish.

Wouldn't it be better to go fishing and come home with a few fish, knowing that upon returning the next trip there would still be something left for?

Incidently fish that are carefully released will survive for the next trip astream. This past summer I released many legal bass that I caught, putting a small harmless numbered tag in the lip or jaw.

Upon fishing the same hole again some weeks later, I again caught and released some of those same bass, which were in fine condition. Next season I hope to again encounter some of those same fish at that spot. You must remember, however, that releas-

(*Turn to page* 23)



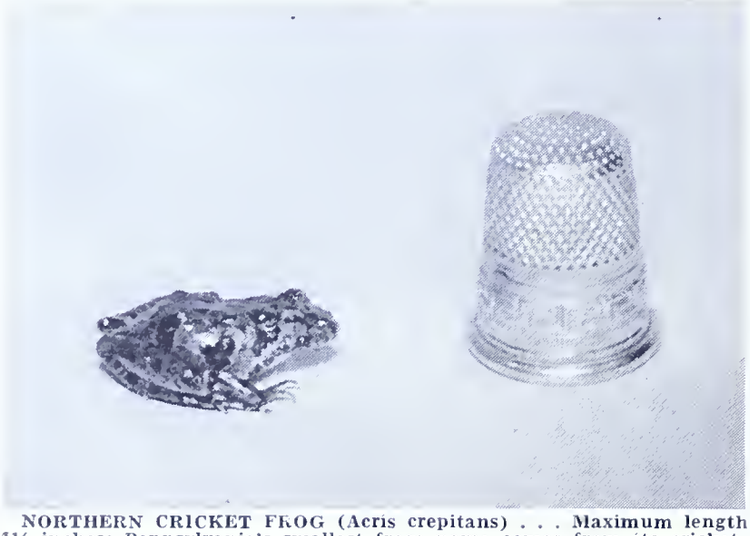
This tree will form a dam, creating shelter and providing an insect hatchery off which the trout will feed.

PENNSYLVANIA REPTILES & AMPHIBIANS

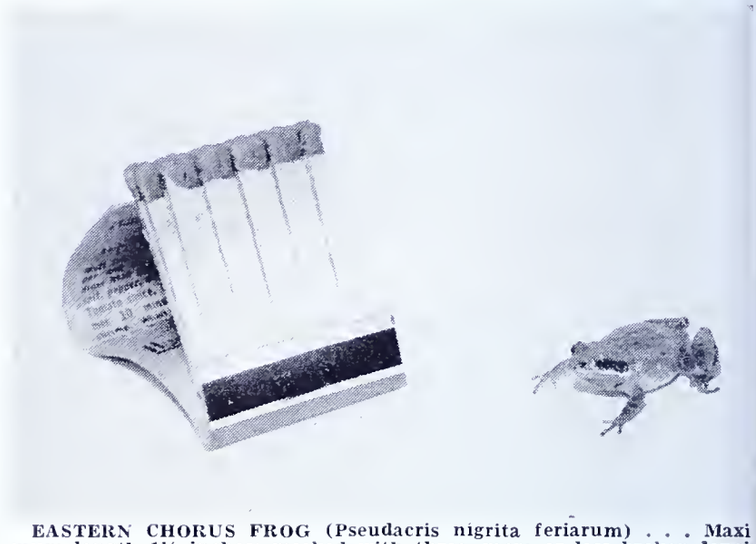
A Picture Story by Hal H. Harrison

(Edited and approved by M. Graham Netting, Curator of Herpetology, Carnegie Museum)

No. 20 . . . Addenda

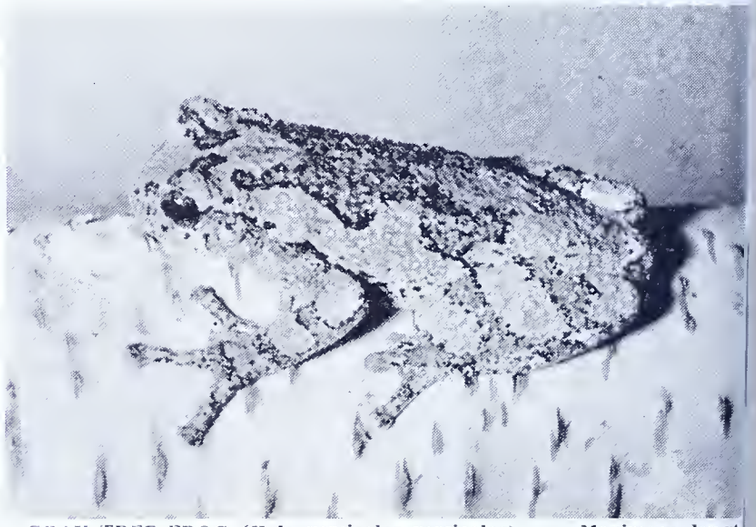


NORTHERN CRICKET FROG (Acris crepitans) . . . Maximum length 1¼ inches; Pennsylvania's smallest frog; name comes from its cricket-like song, an utterance which sounds like two pebbles being clicked together; warty skin and dark triangle between eyes are good field marks; changes color readily with browns and greens predominating; inhabits ditches, swamps and shallow borders of ponds; recorded from 13 Pennsylvania counties but absent or very rare in Western Pennsylvania.



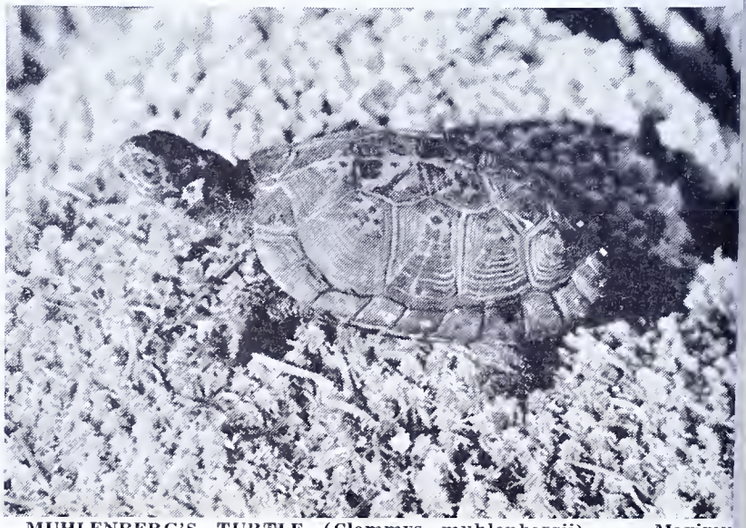
EASTERN CHORUS FROG (Pseudacris nigrita feriarum) . . . Maxi mum length 1⅓ inches; marked with three, more or less broken longi tudinal dark stripes on the back; difficult to distinguish from WEST ERN CHORUS FROG except by locality; one of earliest frogs to "sing" in spring; eggs often laid in shallow temporary water; transformatio from tadpole to froglet is rapid; collected in Pennsylvania in 13 easter and central counties.

EASTERN SPADEFOOT (Scaphiopus holbrookii holbrookii) . . . Maximum length 2⅞ inches; a burrowing species with enlarged digging spades on each hind foot; rarely seen on surface of ground until torrential rains bring them from burrows to lay eggs in flooded areas; call is a loud, harsh explosive quack; in daylight, pupils of eyes contract to vertical slits; collected only from Delaware, Franklin, Monroe, Montgomery and Northumberland counties; photo courtesy Zoological Society of Philadelphia.



GRAY TREE FROG (Hyla versicolor versicolor) . . . Maximum lengt 2⅜ inches; called "rain toad" and has undeserved reputation a weather phophet; call is loud, resonant trill, ending abruptly; rarel seen on the ground, but calls from trees on damp nights from sprin until fall; changes color from light gray to bright green, but groin and under surfaces of hind legs remain orange-yellow; adhesive disc on toes aid in climbing; occurs throughout state; recorded from 3 counties.

EASTERN GROUND SNAKE (Haldea valeriae valeriae) . . . Maximum length 12 inches; our smallest Pennsylvania snake; has gray or brown back, sometimes sprinkled with numerous black dots; belly is whitish or pale yellow; scales may be smooth or faintly keeled, in either 15 or 17 rows; feeds on earthworms, insect larvae and other invertebrates; bears small broods of living young (5-8); secretive and retiring, may have escaped notice many places; recorded from only 8 Pennsylvania counties.



MUHLENBERG'S TURTLE (Clemmys muhlenbergii) . . . Maximu length 4 inches; Pennsylvania's smallest turtle and one of its rares identified by large orange or yellow blotch back of each ear; shel plain black or dark brown, some with buffy or reddish blotching each shield; partial to sphagnum bogs and clear meadow streams; western Pennsylvania, recorded only from Crawford and Mercer cou ties; in southeastern Pennsylvania, it is known from 8 counties.

Here's How to Dress Catfish

By Don Shiner

GUIDES and fishermen long experienced in the field know and ie methods to clean catfish without ıuch fuss or muss. To many, howver, even though they enjoy an ocsional outing for bullheads or catties, ie distasteful job of cleaning them for nner is probably the most annoying ırt of the fishing. Many complain ltterly when dressing them, so much fact that the bigger part of catches e given away, or much to shame, rown in the garbage pail.

There are, however, a few tricks for eaning this species and once these are hown, the task is neither unpleasant ır time consuming. One of the fastest ıd most practical methods used by ıany sportsmen and guides is illusıated here. Following this procedure is found that the operation is eased onsiderably.

Since the catfish family are hardy h, capable of living a considerable ngth of time out of water, plunge a arp knife or other pointed instruıent into the head to sever the spinal rd and nerves. Death will be painss and quick.

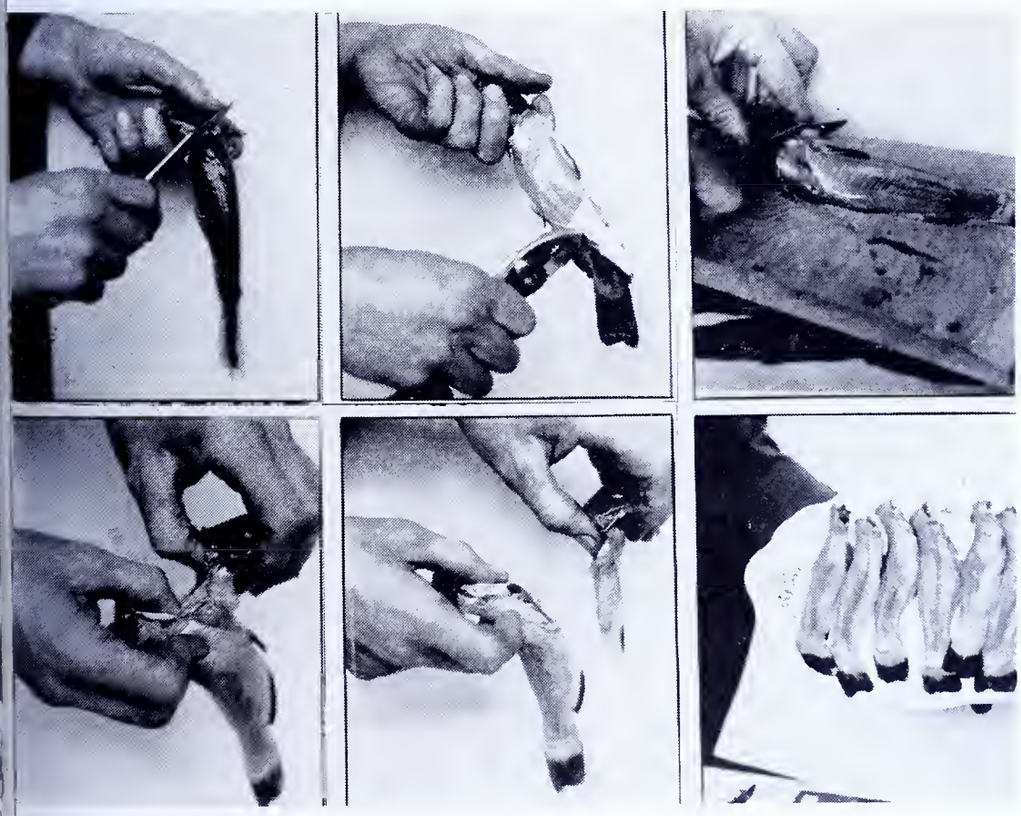
Next, by holding the head of the h in one hand, make a cut just through the skin across the back. Grasp the skin with a pair of pliers and pull the skin toward the tail. After this has been removed, cut deeply behind the head to sever the backbone. Hold the head in one hand and the back part of the body in the other and pull in opposite directions. The head, belly skin and entrails will be pulled from the body and will be attached in one mass. Wash the body cavity, cut off the fins and tail and it is ready for the frying pan.

It takes less than 45 seconds for the entire process and 10 minutes' time will be enough to clean any legal size catch.

Certainly this is no hardship or a distasteful job. If everyone would become acquainted with this or any other fast-action cleaning method, fewer catfish would be given away or disposed of, for they are really one of the tastiest food fish and have fewer bones to contend with than do some of the other species of fresh water fish.

So, the next time you make a catch of bullheads or cats, remember this method. You'll have them ready for the pan in minutes flat.

Thelma Hunsinger, of Nescopeck, Pa., holding a nice catfish. Thelma is a firm believer that catfish are one of the best eating fish found in the streams and lakes of Pennsylvania.



Reading left to right at top: First cut a ring around the head of the cattie. Grab hold of he skin with a pair of pliers and pull toward the tail. Cut deep enough behind the head to ever the backbone.

Reading left to right at bottom: Take hold of the head with one hand and the body with he other hand. Pull in opposite direction and the entrails will be pulled free from the body nd will remain attached to the head. The catfish is now dressed, ready to be washed and laced in a hot frying pan. Cleaning a platter of catfish like this was only a matter of minutes. ried to a deep golden brown, they're one of the tastiest fish that swims, and man, are they ood eaten!

Bass-Fishing

By Fred Kern

In hot weather your catches are better if you fish deep water, especially in lakes.

Small mouth, even more than large mouth bass seek those bottom springs and are to be found there most of the day. They come out of the deep water in the evening and at night, when they may be taken among the rocks.

Often you can tell the location of the bottom springs in a lake. The mists are last to leave, because the springs are cooler, than the surrounding waters.

Trolling to fairly scrape the bottom you will gain your best catches. Bass feed in the same manner as wall eyes and many other fish.

In the stream look for deep holes where there are logs and well shaded pools.

Artificial lures, like bucktail and spinner, yellow-sally and spinner will take many bass in lake or stream. Of course there are many other lures for bait casting, but those mentioned appeal to me, because of my good luck in the past.

When choosing a spinner for small mouth bass, a number three or four blade, in either a single or double is advisable.

But too, still fishing with live bait will bring a certain response. Best live bait for small mouth bass is the fresh water crab or crawfish. The crab in the soft shell stage is best. Always hook through its tail. Hellgrammites, grasshoppers and night crawlers are all excellent smallmouth bait.

Many of our fishermen prefer fly casting which is tops for thrills. Fly patterns are similar to those used for trout, only of larger sizes.

Another time when a man likes to see a girl stick to her knitting is when she's wearing a bathing suit.

C. A. French Addresses Federation Board

Highlights from an address by C. A. French, Executive Director of the Pennsylvania Fish Commission, speaking before the Board of Directors of the Federation of Sportsmen's Clubs in Harrisburg on Friday, October 13, 1950.

At the meeting of the Board of Directors of the Federation conducted in the old House Caucus Room in the Main Capitol on Friday morning, October 13, C. A. French, Executive Director of the Pennsylvania Fish Commission made the following report on the accomplishments of the Fish Commission.

He begun by reviewing the joint meeting of the Fish Commission with the Directors of the Federation which was held in June 1950 at Bellefonte. He said that he was quite happy to report the successful reclassification of all the employees of the Commission. This reclassification the secretary stated, together with the recent salary increase directed by Governor Duff for all state employees earning less than $3,000 per annum, means an increase in the Fish Commission payroll of approximately $100,000.00 annually.

The meeting appeared quite pleased as he proceeded to discuss the expenditures of moneys earmarked by the Legislature for the purpose of expanding fishing areas in the state.

Mr. French stated—"We have acquired title to 118 acres of land in Fayette County. This property is ideally situated for the creation of a lake having a surface area of some 35 acres. The lake will provide additional fishing opportunities for the general public of Pennsylvania. The Commission has been negotiating with the owners of this property for over a year and the creation of this lake should be good news to fishermen particularly in the Southwestern portion of Pennsylvania. Engineering firms have been employed to draw the necessary plans which, when finished, will be submitted for bids to construct the dam.

Through the courteous cooperation of the Cambria County Federation of Sportsmen's Clubs the Commission has been deeded an area of land in Cambria County for the purpose of creating expanded fishing opportunities in that section. Engineering firms have also been employed by the Fish Commission to draw up the necessary plans in order that bids may be sought for the development of a lake on this property.

Two other projects of deep concern to the fishermen of Pennsylvania are the properties now owned by the Fish Commission and on which similar construction is now being started. These two properties are, Big Spring near Newville in Cumberland County and Reining's Pond in Wayne County.

With the employment of engineering firms to draw the plans for these lakes the Commission has begun what may well be considered to be one of the largest expansion of public fishing waters ever undertaken by the Board.

We estimate the cost of these four lakes to be in the sum of $200,000. This money of course will come from the earmarked portion of the Fish Fund which in accordance with the law has been set aside for this specific purpose. This program gets under way a

Pennsylvania Fish Wardens' Training School

The annual Fish Wardens' Refresher Training School was conducted September 18-20 in the Fisherman's Paradise Administration Building near Bellefonte. Attended by all the regular Fish Wardens of Pennsylvania, the school was conducted under the supervision of W. W. Britton, Chief Enforcement Officer of the Pennsylvania Fish Commission. Mr. Britton was ably assisted by C. A. French, Executive Director of the Pennsylvania Fish Commission and H. R Stackhouse, the Administrative Secretary.

Timely instruction was given by Captain Ray Hoover of the Pennsylvania State Police; C. R. Buller, Chief Fish Culturist; Gordon Trembley, Chief Aquatic Biologist; J. Allen Barrett, Public Relations Director of the Commission and visiting representatives of the Pennsylvania Game Commission.

Many phases of the changes in the laws governing fishing in Pennsylvania were discussed together with other highly importa requisites to be administered by the Fis Wardens. During the school an examinatio was conducted for the selection of a numbe of Field Division Supervisors now bein planned by the Fish Commission in its effo to improve and expand this important div sion of the Commission. Thirteen of th Wardens participated in the examinatio The course was concluded with a tour of th Pleasant Gap Hatchery conducted by C. Buller, thus apprising the Wardens of th many new and effective phases now bei employed in the propagation and culture fish.

The enthusiasm displayed by the Ward force demonstrated beyond any doubt th such a refresher course once each year is most beneficial venture.

Grouped in full regalia, the Pennsylvania Fish Commission's field force of Wardens presents a rather impressive picture as they gathered at e annual conclave and refresher school at Fisherman's Paradise. Kneeling—Left to right: Edward Lee, C. R. Buller, W. W. Britton, Robert Bielo, C. French, Bert Euliano, R. M. Betts, H. R. Stackhouse, G. L. Trembley. Second Row: John Ogden, Lester Ogden, R. M. Greener, W. E. McIlnay, B. L Carnell, Floyd Bachman, C. S. Sheridon, B. F. Barnhart, H. D. Neff, B. R. Brooks, S. F. Henderson, A. L. Walker, D. R. Davis, R. J. Womelsd Clifton Iman. Third Row: C. V. Long, G. H. James, A. S. Snyder, Wilbur Williams, Rayel Hill, Nevin LeDane, H. A. Pyle, Kenneth Aley, G. M. N R. C. Bailey, H. Z. Cole, N. L. Blum, Julius Ahrens, Chas. Litwhiler, Ralph Singer. Fourth Row: Harold Corbin, George Cross, A. J. Lech, M. C. Jo Clarence Shearer, L. E. Close, F. L. Ottaway, David Dahlgren, N. W. Sickles, Keith Harter, P. D. Wilcox, C. B. Baughman, L. E. Cloos, H. F. Reyno J. H. Banning, J. A. Schadt, Jr., C. A. Bidelspacher.

ice and we plan to have these additional shing areas available to the public at the rliest possible date."

In addition the Commissioner reported the urchase of stream easements and announced at Mr. Edward Westlake has been selected head up this phase of the Commission's rogram. Seven men have already been emloyed in different parts of the state who ill work with Mr. Westlake and his assistant Ir. William McIlnay of Bedford County. Ir. French then injected the statement:—Mr. Westlake will present a more detailed utline of this program to the convention cheduled for tomorrow morning. October 4 in the Forum of the State Capitol." Also his remarks on this phase of this program e stated that Gordon Trembley, Chief Acuatic Biologist, who has been in charge of e Pennsylvania Fish Commission's Fish Ianagement Program will likewise present detailed and complete report of this part f the program to the convention scheduled r tomorrow.

He explained the Dingle Bill at length aying that all necessary steps have been aken by the Fish Commission in order to nable the Commission to be eligible to parcipate in this tax refund program. "I have een in contact with Mr. Albert Day of the Inited States Fish and Wildlife Service and s soon as the mechanics of the reimbursenent of this tax fund to Pennsylvania are eveloped, and it has been determined which rojects will be eligible under the provisions f the Dingle Bill, I am quite sure that we hall be ready with our program. It may be f extreme interest to this body to know hat the United States Fish and Wildlife ervice in an estimate predicated upon the umber of fishing licenses sold last year and the total revenue of the presently collected 'ederal tax on fishing equipment is in the um of $3,000,000; Pennsylvania will annually eceive an estimated $76,000 for fishery resoration and management projects." Mr. 'rench also explained that all approved projcts under the terms of the Bill will be paid n a basis of 75% from the Dingle Fund plus 5% from the Fish Fund.

Mr. French reported on the Annual Reresher Training School for Fish Wardens vhich was held at Spring Creek during the veek of September 18 and said—"In my udgment it was the best school we have ever eld. This year we conducted a written xamination for the purpose of selecting Division Supervisors to be set up throughout he state. Of the Fish Wardens attending the chool thirteen of them participated in the xamination and the Commission plans to put his expanded service into effect sometime arly in 1951."

In conclusion French paid a warm tribute f thanks and appreciation for the splendid ooperation given him and the Commission y the officers and members of the Federaion. "I assure you that with your continued nselfish and fine constructive cooperation, ve as your servants will do everything posible to make Pennsylvania one of the best ishing states in our Nation."

Prosperity usually goes hand in hand with he man who has the ability to avail himself of the things which the other man has earned.

Trout take Grasshoppers!

(*From page* 11)

before. George reached there first while I was fishing a broad, rather shallow part of the stream immediately above the place where my companion stopped.

"I need that net of yours!" George shouted loud enough for me to hear him above the noise of the rushing water. He was in the stream almost to the top of his boots and the end of his rod was bent until it touched the water.

"I have one I can't handle in this swift water," George explained as I hurried to him with my landing net. As I neared him I could see that part of his line was tangled in the branches of the fallen tree which overhung the stream at the head of the swift water. A fine trout thrashed the surface in front of him.

George had to make two dips with my net before he captured that elusive trout, and there were sweat beads on his forehead as he expelled a great sigh of relief.

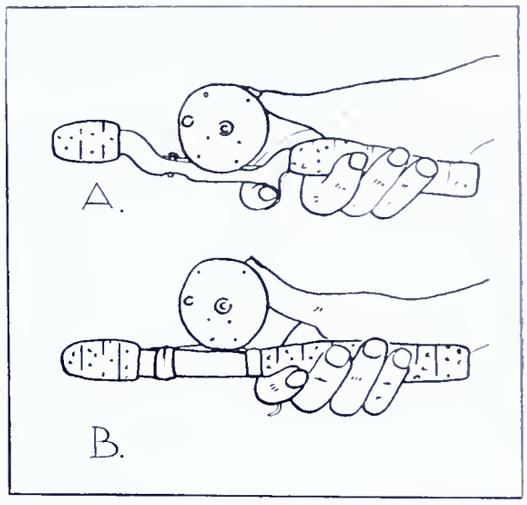
"I had about given up hope of landing that one!" admitted George as he took the hook from the mouth of the 14-inch brown trout. "He got out in the swift water before I could stop him and when he tangled my line in those pesky branches I couldn't do a thing with him," my companion continued.

"Switch to worms," George advised, "that's what I caught that one on. They don't seem to be much interested in 'hoppers' today, for that chap I just passed told me he had caught his fish on worms."

Being thoroughly sold on grasshoppers, I continued to bait with them throughout the afternoon and was well pleased with my catch when I met up with George in the late afternoon. He had a self-satisfied grin on his face when I asked him concerning his luck. And he had reason enough to feel gratified, for he had one of the nicest catches of trout I have seen in a good while.

Five of my friend's trout were well over a foot in length and the others were ten or more inches long. He had caught them, he explained, on worms which he had fished with only a small amount of lead on his leader.

Although my fellow fisherman had nicer trout than I had I wouldn't concede that worms were better than "hoppers" on the stream we had fished. It was only, I tried to tell George, that the big ones were going after worms in the high, roily water.



A.—Offset handle. B.—Forcing the thumb to do its work in an unnatural position. (Straight handle).

Casting Technique

By Don Shiner

One of the most important factors in casting, and one that can not be over emphasized, is the style of the rod's grip or handle. For good tireless casting, the handle must fit your hand comfortably and naturally.

When using the conventional bait casting multiple reel, it is necessary to thumb the spool. This is necessary to prevent the reel from over running the line during a cast and stop the spool revolving at the instant the iure hits the water. Unless this is timed perfectly and done in efficient way, the result is a "bird nest" or a back lash, and the line becoming an unsightly tangle.

Forcing the thumb to do its work while cocked in an unnatural holding position is often the cause of much of the casting trouble. From the illustration it can be readily seen, the offset handle allows the thumb and grip to be natural. This is decidedly an advantage, and is more tireless, and a more efficient casting rod handle.

Undoubtedly the offset handle is by far the superior. Perhaps if the angler has casting trouble, cannot gain distance, accuracy, has frequent back lashes, and thumb, hand, and wrist becomes tired, the fault can be contributed to the handle. The casting rod handle should be checked and often a switch to a more desirable off set handle results immediately in improved casting technique.

Catches 33 Inch Eel

Roy Landis of Trooper enjoyed a thrilling experience August 24 when he hooked and landed a 33-inch eel on a fly rod in the deep water below Shady Nook on the Collegeville Mills dam. The eel weighed 3½ lbs. and was 7½ inches in circumference.

Roy was fishing from his dad's boat in the early evening for bass, using a fly rod and a red stone cattie bait. Suddenly he got a slow strike—just like a big bass. He pulled up, felt the hook being set and the battle was on. Soon he discovered it was a big eel on the other end of the line. After a good half hour's tug of war Roy finally got the slithering eel up and into the boat and then there was quite a scramble until he managed to kill the eel.

Fish Management Program Progress

(*From page 3*)

ing the existing fish population or by a combination of both methods. Our present laws prohibit the use of poisons for this purpose, but we hope that in the very near future this very important tool of fish management will be made available to us. Once the stunted population has been eradicated, the lake will then be stocked with fish species which are adapted to the environmental conditions existing in that lake.

I believe that such a program of pond and lake reclamation will be of much value in promoting better fishing in the future. When a lake has been restocked by us, it will be up to the fishermen to see that no further planting of any fish is made without the approval of the Fish Commission.

Another problem encountered concerns the high color that develops in the shallower lakes and ponds during summer. Fishermen speak of this as the "working" or "purging" of a lake and complain that fish won't bite when the lake is in this "pea-soup" condition. Cottagers generally dislike swimming or even boating in this colored water.

This coloration is due to the presence of enormous numbers of planktonic algae in the water. It is a natural phenomenon—occurring in most lakes which are shallow, warm, and fertile. Fishermen should realize that plankton organisms are needed by all young fish as their first food and, where they are not present, young fish do not survive. Also, lakes which develop color are ordinarily fertile and hence productive, whereas crystal clear waters normally support less fish life.

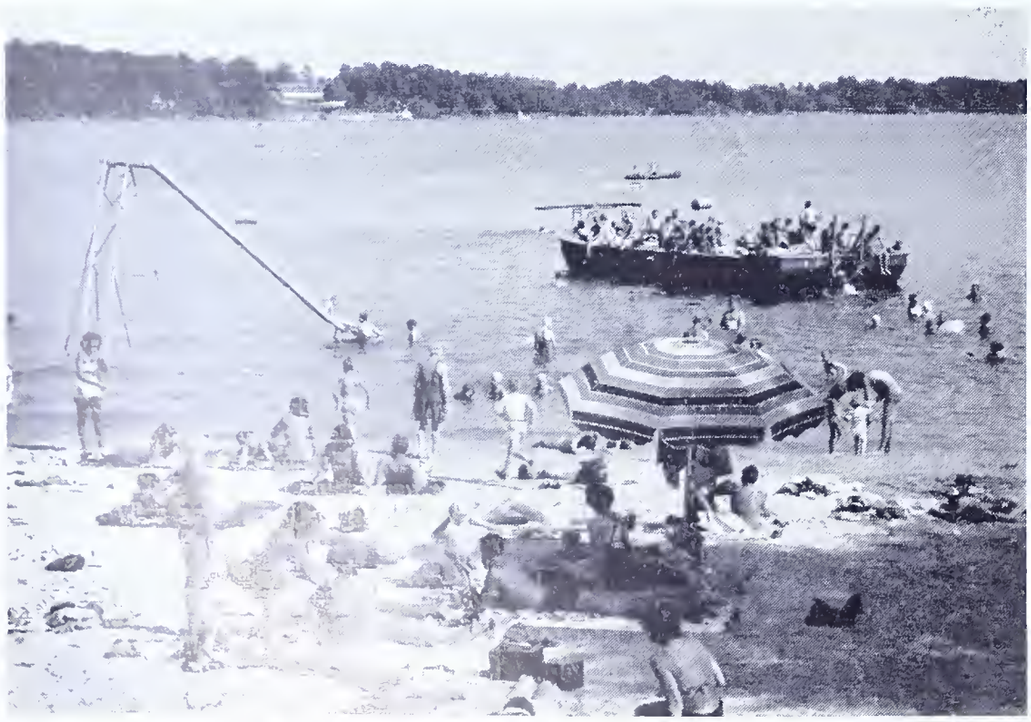
Lake Pleasant, Erie County. A creel census was conducted on this lake during the trout season, 1950. In spite of near-freezing temperatures on the first two days, 186 anglers fished here and caught 344 trout.

However, it is true that this great production of planktonic algae in midsummer is a nuisance to the angler as well as to swimmers and sometimes develops a disagreeable odor. In cases where the water is used for drinking purposes, permits may be obtained for the use of copper sulphate which discourages, temporarily at least, certain planktonic forms. The Fish Commission does not favor the use of thi chemical as it is very toxic to fishe Unfortunately some people have at tempted, unlawfully, to control plank ton growth with copper sulphate. Thi can be practically useless or ver dangerous in the hands of unskille users since, if improperly applied, i will not control plankton and if to much is used, it may kill fish and fish food organisms.

To discourage this growth and sav the fish is difficult indeed. It may b possible to control the nuisance b raising the water level, by preventin the inflow of fertilizing materials or b some other natural method. We fee that our lakes should be utilized to th fullest—by the fishermen as well a the non-fishermen. Therefore, if som method of algal control can be foun which will not upset the food chain c fishes or be toxic to fishes, we sha certainly approve its usage.

It is interesting to note the wid variations of biological, chemical, an physical conditions existing in th lakes investigated. Thus, althoug most lakes appeared to have a suff cient supply of fish food, at least tw were definitely lacking in this respec Similarly, fish populations in som lakes were well balanced but ex tremely unbalanced in others. Ther is a considerable divergence in th growth rate of a single fish species i different lakes. It has been necessary therefore, to consider each lake as separate unit and to prepare specifi recommendations for each lake.

Since our program is so new som of our first work must be of an exper mental type. Last year we investigate a lake which held a number of warm



Conneaut Lake, Crawford County. Many of our lakes are favorite summer resorts. This must be considered when planning a fish management program for these lakes.

ater fish species. This lake had also eceived plantings of rainbow trout as n earlier investigation had shown it be the only lake in that area which ould support trout. We did not know, owever, how many of these trout ere caught by anglers as fishermen's eports were conflicting. Nor were we ure that some other trout species ight not be planted to better advanage here. To answer these questions, e designed an experiment which inuded trout marking and a creel ensus. Equal numbers of rainbow and rook trout were planted. Each trout as marked by the removal of a fin nd thus could be distinguished from out in either past or future plantings. everal men were employed as checks on the lake during the open trout eason. It was the duty of these men contact all anglers and record their atches. Thus, at the end of three and ne-half months, we had an accurate ecord of the anglers' catches in this ake.

The results of this experiment were nlightening. For, of the brook trout lanted, a total of 60% was removed y anglers whereas, in the case of the ainbow trout, only 20% were caught. uch information as this is most valuble to us. We hope to continue this pe of work on this and other water eas and will use the information acuired as an aid in the future manageent of these waters.

A listing of the practical applications f our fish management work will inlude:

1. An adjustment of fish populations where needed. This includes handling populations with stunted growth.
2. Changes in the stocking policies in certain cases.
3. Increasing the natural food of fishes.
4. Bettering spawning conditions.
5. Improving the shelter.
6. Controlled use of fertilizers.
7. Consideration of changing certain fishing regulations in the future.

The results of these management ractices will be checked from time to me after they have been put into peration.

During the summer of 1949 we inestigated four lakes. This past sumer it was doubled. It is a source of uch satisfaction to us that on these 2 lakes we have enjoyed the interest, ood will, and cooperation of the local shermen. We have become acquainted ith the fisherman' viewpoint and roblems and, I believe, have shown im the value of this program. This is s it should be for we should all be orking toward the same goal—that is etter fishing in Pennsylvania.

The Bass Made Whoopee

(*From page 9*)

the lake pulled up lines and headed, pell-mell toward us.

We caught a couple more before they got there, then about twenty-five men and boys could be seen, scurrying around, catching frogs, wading off shore and throwing in their lines near the weed bed. They too began to have a merry time.

My brother was the champ, though. When he caught his tenth bass, he sat down on the grass, laid out his ten green colored dandies and heckled.

"O. K., you punks, why don't ya learn how to catch fish?" But he's a good soul and he'd encourage us too if we'd get a strike, cheering as we occasionally landed one.

I wasn't too good that morning. I caught three nice ones then missed five strikes in a row. After that the bass stopped hitting.

We lugged our thirteen bass home, and I assure you for us kids that was a heavy job, nice as it was.

Fishing was pleasant at the Cascade Park Lake for a number of years after that and as kids we enjoyed many happy days there, mostly plugging for bass in the evenings or using frogs during the day.

Then the lake was in some way polluted. The fish died off and disappeared. Eventually a flood broke the spillway dam.

However, our story ends on a reassuring note. The dam since has been rebuilt by the city. The pollution is cleared, and the lake has been restocked with fingerling bass by the Oakland Sportsmens Association of New Castle, Pa.

Maybe soon again the kids of Lawrence County will be congregating at the Cascade, learning about the bass that make whoopee!

The buxom soprano in the opera fainted and it took four men to carry her off the stage—two abreast.

Streamside Life

THE HARDSTEM BULRUSH

By Robert Leo Smith

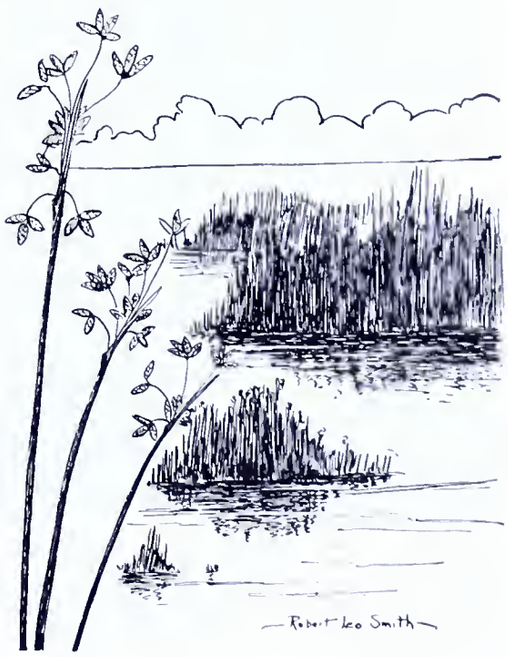
The bulrushes are among the most conspicuous plants of the streamside and the more common of them fall into 3 groups. There are the triangular-stemmed bulrushes with dense clusters of spikelets, the round-stemmed with loose panicles of spikelets and the leafy, three-angled bulrushes. Among these one of the most important is the hardstem bulrush or tule, *Scriptus acutus,* a round-stemmed variety. It is found in masses along the margins of streams, ponds and lakes and in scattered clumps out in the water.

Growing 5 to 7 feet high, the stiff stems rise from stout, scaly, horizontal rootstocks that form tough, woven mats. The leaves of the tule are light green, short and scarcely noticeable, forming a sheath about the base of the stem. The flowers of the hardstem bulrush, which blooms during August and September, are produced in scaled spikelets, one blossom in the axil of each scale. And the spikelets are carried in compact, panicle-like clusters.

The tule is a pioneering plant, especially on hard-bottomed lakes. By producing a buffer action against the wind and the waves the tule permits the accumulation of debris to build up on the lake and stream margins, thus creating a favorable site for other aquatic plants.

The hardstem bulrush not only provides better environmental conditions for other plants but it also furnishes food and cover for wildlife. Ducks, grebes and herons hide in the bays formed by the tule; yellow-throats, marsh wrens and redwings nest in its stemmy jungle; and ducks relish its egg-shaped nutlets.

Even the angler can find the bulrush a valuable plant in a very personal way. The fleshy rootstocks and the submerged bases of crisp young shoots are good food at any time. They may be eaten raw, boiled or cooked with corn meal; and they can be dried and ground into a sweet flour.



PENNSYLVANIA FISH LAW VIOLATIONS

CASES SETTLED DURING THE MONTH OF SEPTEMBER 1950

ALLEGHENY COUNTY

Bender, Arthur R., Center Rd., Pitcairn, Pa. Lines not under immediate control $20.00

Dietrict, William E., 7527 Kelly St., Pittsburgh, Pa. Violation of the rules and regulations 5.00

Dixon, Mitchell T., 40 Duquesne Court, Springdale, Pa. Exceeding creel limit 10.00

Garfold, John P., 2681 18th St., Pittsburgh, Pa. Fishing without a license 25.00

Kaufman, Walter J., 4816 Brierly Court, R. D. 1, Homestead, Pittsburgh, Pa. Fishing without a license 25.00

Madison, Eddie, 336 Fourth St., Rankin, Pa. Fishing in State Fish Hatchery 100.00

Painter, Alvin J., R. D. No. 4, Irwin, Pa. Fishing without a license 25.00

Petkunes, Frank, 6678 Frankstown Ave., Pittsburgh, Pa. Operating a motorboat without displaying license plates 5.00

Sanner, Mahlon J., 518 1st St., Oakmont, Pittsburgh, Pa. Operating a motorboat without displaying license plates 5.00

Schmidt, Frank, 5210 Clariton Zone 27, Pittsburgh, Pa. Operating a motorboat without displaying license plates 10.00

Volk, Harold, 1424 W. Liberty Ave., Pittsburgh, Pa. Operating a motorboat without displaying license plates 10.00

Warburton, David J., 908 Center St., Pittsburgh 21, Pa. Operating a motorboat without a a license 10.00

Way, Frederick, Jr., 121 River Ave., Sewickley, Pa. Operating a motorboat without a license 10.00

BEAVER COUNTY

Parasida, George, 232 Morado Dwellings, Beaver Falls, Pa. Illegal operation of motorboat 50.00

Walko, William, 24 Woodland Rd., Ambridge, Pa. Exceeding creel limit 10.00

BERKS COUNTY

Hartman, Mrs. Leonard, R. D. 1, Kempton, Pa. Exceeding creel limit 20.00

Hartman, Leonard, R. D. No. 1, Kempton, Pa. Exceeding creel limit 20.00

Hemming, Gerald T., 231 S. 3rd St., Reading, Pa. Interference with an Officer 100.00

High, Clarence M., 3426 Boyer St., Laureldale, Pa. Exceeding creel limit 40.00

Smith, Thomas, R. D. No. 1, Temple, Pa. One undersized bass 10.00

BLAIR COUNTY

Arthur, George A., 1927 6th Ave., Altoona, Pa. One undersized bass 10.00

Vaughn, George W., 3014 Oak Ave., Altoona, Pa. Fishing without a license 25.00

BRADFORD COUNTY

Filler, Adam J., 407 Huges St., Sawyerville, Pa. Fishing in private lake on Sunday without permission of landowner 25.00

BUCKS COUNTY

Fowler, John F., Neshaminy, Pa. Fishing without a license 25.00

Heath, Lester L., Oxford Ave., Tullytown, Pa. Fishing without a license 25.00

Lambrecht, Robert A., 130 S. Broad St., Quakertown, Pa. Lending a fishing license 25.00

Lewis, William, N. Ambler St., Quakertown, Pa. Fishing on a borrowed license 25.00

McKinney, Harry, Bristol Rd., Holland, Pa. Fishing without a license 25.00

CAMBRIA COUNTY

Kull, Emmert H., 100 Pleasant View Drive, Johnstown, Pa. Exceeding creel limit 10.00

CHESTER COUNTY

Muthard, William, 1125 Oak St., Coatesville, Pa. Fishing with illegal device 20.00

Zelger, Alfred, R. F. D. No. 2, Phoenixville, Pa. Giving false information to secure a fishing license 25.00

CLINTON COUNTY

Englert, Richard J., 409 E. Church St., Lock Haven, Pa. One undersized bass 10.00

Long, Edwin E., 804 Baldeagle St., Lock Haven, Pa. Illegal device ... 20.00

Moore, Truman, Hyner, Pa. Two undersized bass 20.00

Neff, Truman A., R. D. 1, Lock Haven, Pa. One undersized bass .. 10.00

Ed Blaney of Kittanning proudly displays a 42½-inch muskellunge weighing 16 lbs. which he caught from the Allegheny River at Kittanning. Blaney reports that it required fully an hour and 20 minutes to land this whopper. He took the fish on a No. 1/0 bass hook using a live minnow as bait.

Truly a 'king' sized bass caught by R. H. Ha son of Loyalhanna, Pa.

COLUMBIA COUNTY

Harrison, Jenneth, 429 W. 2nd St., Berwick, Pa. Exceeding creel limit 10.

Trivelpiece, Clyde, 609 Vine St., Berwick, Pa. Exceeding creel limit .. 20.

CRAWFORD COUNTY

Repasky, John, R. D. 2, Cambridge Springs, Pa. Operating a motorboat in a restricted area ..... 25.

DELAWARE COUNTY

Carter, Mrs. James, 927 Pennel St., Chester, Pa. Fishing without a license ..... 25.

Fulks, John E., 873 Springfield Rd., Secane, Pa. Fishing without a license 25.

Houdeshel, Robert R., 876 Quaint St., Holmes, Pa. Fishing without a license ..... 25.

ERIE COUNTY

Drake, Robert, R. F. D. 4, Union City, Pa. Fishing in nursery waters 100.

Drake, Robert, R. F. D. 4, Union City, Pa. Fishing without a license 25.

Geddes, Thomas C., 921 East Ave., Erie, Pa. Three undersized bass .. 30.

McCrillis, Ralph L., 1161 Buffalo Rd., Erie, Pa. Operating a motorboat without displaying license plates .. 5.

Van Epps, Charles J., 136 E. High St., Union City, Pa. Fishing in nursery waters ..... 100.

Whitman, Clemie, 122 W. 16th St., Erie, Pa. Exceeding creel limit ... 10.

FAYETTE COUNTY

Budd, William F., Pine St., S. Connellsville, Pa. One undersized bass 10.

Darrell, Harold R., Hopwood, Pa. Illegal device ..... 20.

Jones, William S., 137 State St., Belle Vernon, Pa. Illegal operation of motorboat 10.00
Rensel, Albion A., Hopwood, Pa. One undersized bass 10.00

GREENE COUNTY

Santucci, Ralph, R. D. No. 1, Clarksville, Pa. Fishing without a license 25.00

HUNTINGDON COUNTY

Black, Edward L., Coalmont, Pa. Illegal device 20.00

INDIANA COUNTY

Shadle, Albert T., R. D. No. 2, Blairsville, Pa. Fishing without a license 25.00

LACKAWANNA COUNTY

Grogowsky, Edward H., 1631 Dorthy St., Scranton, Pa. Illegal operation of motorboat 10.00
Jaffe, Jerome, 214 Lackawanna Ave., Scranton, Pa. Illegal operation of motorboat 5.00
Smith, Ralph, Chinchilla, Pa. Exceeding creel limit 10.00
Umfogel, Leo, 326 S. State St., Clarks Summit, Pa. Exceeding creel limit 10.00

LANCASTER COUNTY

Bradley, Paul, 28 W. Hager St., Lancaster, Pa. Illegal device 20.00
Deitz, Henry J., R. D. 2, Columbia, Pa. Illegal operation of motorboat 10.00

LAWRENCE COUNTY

Allen, Glenn H., 603 Harbor St., New Castle, Pa. Operating a motorboat without displaying license plates .. 5.00
Cifra, Ann, 318 Carson St., New Castle, Pa. Fishing without a license 25.00
Lesnick, Robert, 2 W. Washington St., New Castle, Pa. Operating a motorboat without displaying license plates 10.00

LUZERNE COUNTY

Belles, Samuel, R. D. No. 1, Shickshinny, Pa. Exceeding creel limit 10.00

Roland Oerman of York and a mammoth carp which he caught from the Susquehanna River Lancaster County side recently. It required three hours and five minutes to land this fish which measured 37½ inches long and weighed 5 pounds.

Henney, Robert C., Dallas, Pa. Operating a motorboat without a license 10.00
Johns, Walter S., 1223 N. Washington St., Wilkes-Barre, Pa. One undersized bass 10.00
Novakovich, Joseph, 104 Carpenter St., Luzerne, Pa. Fishing on Sunday without permission of landowner .. 25.00
Novavich, Stephen, 431 Union St., Luzerne, Pa. Fishing on Sunday without permission of landowner .. 25.00
Ricci, Angelo, 152 W. Broad St., Nanticoke, Pa. Fishing on Sunday without permission of landowner .. 25.00
Seaman, Leslie, R. D. No. 2, Pittston, Pa. Illegal operation of motorboat 10.00
Stasko, Andrew, 16 Church St., Edwardsville, Pa. Exceeding creel limit 10.00
Stout, Theodore, 65 Fort St., Forty-Fort, Pa. Illegal operation of motorboat 5.00
Wells, Robert, 1368 Murray St., Forty-Fort, Pa. Operating a motorboat without displaying license plates .. 10.00
Woolbert, W. A., 715 Wyoming Ave., Kingston, Pa. Illegal operation of motorboat 5.00
Zalonis, Andrew, 131 Pierce St., Plymouth, Pa. One undersized bass 10.00

LYCOMING COUNTY

Card, Percy F., 554 Main St., S. Williamsport, Pa. Exceeding creel limit 20.00
Card, Percy F., 554 Main St., S. Williamsport, Pa. Fishing without a license 25.00
Dunn, Reuben, R. D. No. 1, Montgomery, Pa. Exceeding creel limit 30.00
Stahl, Grant D., 216 Spring St., Duboistown, Pa. Exceeding creel limit 20.00

McKEAN COUNTY

Norene, Arthur F., 62 Chestnut St., Bradford, Pa. Five undersized bass 50.00

MERCER COUNTY

Mrvos, Peter J., 23 Pine St., Greenville, Pa. Fishing without a license 25.00

MONTGOMERY COUNTY

Gehret, Allan, Fairview Village, Pa. Illegal device 20.00

NORTHAMPTON COUNTY

Jameson, William B., R. D. 2, Bath Pike, Bethlehem, Pa. Fishing without a license 25.00

NORTHUMBERLAND COUNTY

Burrell, Russel, 826 Lutt St., Shamokin, Pa. One undersized Susquehanna Salmon 10.00
McKinnes, E. T., R. D. No. 1, Northumberland, Pa. Operating a motorboat without license 10.00
Schlegel, Doris I., R. D., Dalmatia, Pa. Fishing without a license 25.00
VanHorn, Paul L., R. D. No. 1, Milton, Pa. Fishing without a license 25.00

PHILADELPHIA COUNTY

Frock, Ray, 2930 N. 6th St., Philadelphia, Pa. Loaning a fishing license 25.00
Gallagher, Ed., 9502 Bustleton Ave., Philadelphia, Pa. Exceeding creel limit 10.00
Rich, Harry, 2949 N. 6th St., Philadelphia, Pa. Fishing without a license 25.00
Shannon, William J., 646 W. Rush St., Philadelphia, Pa. Fishing without a license 25.00
Sussman, Donald, 7532 Sherwood Rd., Philadelphia 31, Pa. Exceeding creel limit 20.00

Mike Solonichne of Leechburg and the big carp, 40½" long weighing 41 lbs. which he caught from the Allegheny River at Schenly, Pa. Mike used a 24 lbs. test line.

SCHUYLKILL COUNTY

Everett, John E., 606 E. Mahanoy Ave., Mahanoy City, Pa. Illegal operation of motorboat 10.00
Hornung, Charles, 534 E. Arch St., Pottsville, Pa. Illegal operation of motorboat 10.00
Nuss, William, 1414 E. Center St., Mahanoy City, Pa. Illegal operation of motorboat 10.00
Qrzechowski, Anthony J., 234½ S. West St., Shenandoah, Pa. One undersized bass 10.00
Renninger, Kenneth, Mill St., Auburn, Pa. Exceeding creel limit 20.00
Stoudt, Albert, 318 Fourth St., Tower City, Pa. Failure to display license 25.00
Thomas, Ernest E., 316 S. 4th St., Tower City, Pa. Failure to display license 25.00

SOMERSET COUNTY

Sullivan, John R., R. F. D. No. 1, Somerset, Pa. Fishing without a license 25.00
Sullivan, John R., R. F. D. No. 1, Somerset, Pa. One frog in closed season 10.00

SUSQUEHANNA COUNTY

Whitlock, Mrs. Sarah, R. D. No. 3, Susquehanna, Pa. Fishing without a license 25.00

VENANGO COUNTY

Hornburg, C. W., High St., Oil City, Pa. Operating a motorboat without displaying license plates 5.00

WARREN COUNTY

Riggle, John L., Box 30, Clarendon, Pa. One undersized bass 10.00

Thompson, S. E., Grand Valley, Pa. Exceeding creel limit 20.00
Williams, Herbert R., Croydon, Pa. Exceeding creel limit 10.00

WASHINGTON COUNTY

Fleet, William H., R. D., Finleyville, Pa. Operating a motorboat without a license 10.00
Harvey, Morris, 106 Archer Lane, Burgettstown, Pa. Violation of the Rules and Regulations of the Pa. Fish Commission 20.00

WESTMORELAND COUNTY

Black, E. S., R. D. No. 2, Jeannette, Pa. Operating a motorboat without displaying license plates 5.00
Dedo, Amelia H., Rillton, Pa. Fishing without a license 25.00
McKula, Andrew M., 114 High St., Mt. Pleasant, Pa. Fishing without a license 25.00

WYOMING COUNTY

Howell, Francis, Box 45, Osterhout, Pa. Illegal device 20.00
Winnana, Lewis, River St., Tunkhannock, Pa. Exceeding creel limit ... 20.00

YORK COUNTY

LoBianco, Pete, 2341 W. Market St., York, Pa. Operating a motorboat without displaying license plates .. 10.00
Voland, Donald, R. D. 1, Dillsburg, Pa. Fishing without a license 25.00

OUT OF STATE

Weisgarber, Ray A., 4700 10th Ave., St. Petersburg, Fla. Fishing without a license 25.00
Burton, Albert W., 409 Catherine St., Fort Lee, N. J. Operating a motorboat without a license 10.00
Bonito, Fedele L., 1124 Waring Ave., Bronx, New York. Operating a motorboat without a license 10.00
Finn, Daniel, 109-20-108 St., Ozone Park, N. Y. Operating a motorboat without displaying license plates .. 5.00
Luers, William R., 128 S. 11th St., Mt. Vernon, N. Y. Operating a motorboat without displaying license plates 5.00
Harris, Carl, 2705 University Dr., Durham, N. C. Fishing without a license 25.00
Haladay, Frank J., 2230 E. 33rd St., Lorain, O. Fishing without a license 25.00
Raybuck, Orvetta, Route No. 2, Wellington, O. Fishing without a license 25.00
Callis, Robert S., 318 Duff St., Clarksburg, W. Va. Fishing without a license 25.00

Guide to Happier Fishing

By Clayt Seagears

Of all the many satisfactory pleasures derived by Man from hunting and fishing, the pleasure of anticipation probably gets top ranking on nearly everybody's score card.

Man can spend a lot of time anticipating. While engaged in this pleasant pastime there usually builds up an increasing urge to taste the fruit. Not a little fruit like a huckleberry, but a big fruit like maybe a Hubbard squash. This is good for a healthy flow of adrenalin. Unfortunately, there seems to be a growing number of folks who go around needlessly stepping on other people's anticipations. The pain is getting to be almost unbearable.

Let's illustrate:

A duck hunter spent three months building the world's most splendiferous rig of decoys plus the world's most healthy backlog of anticipation.

When The Time arrived, he spent half the night spreading his wonderful new blocks properly in front of his brand new blind built right on the Spot of Spots, selected after many pleasant hours of secret scouting.

At last the magic moment! Out of the grenadine-flavored eastern sky he saw them coming—a half-dozen blacks boring straight and clean and high. Nearer. Nearer. The head duck dropped his neck to give the rig the once-over. Surely all must be well. They'd swing once, maybe twice, then take the elevator down. The hunter, shaking like the well-known hound dog sitting on a briar, watched them start the swing, still very high.

Boom-boom-boom!

The unsuspected neighbor shot needlessly, boneheadedly—a mile out of range. He poled his white rowboat (it always is) out through the reeds as the blacks, pouring on the coal, climbed up and away and out of the decoy builder's heart. The ducks had to climb hard to do that since that heart of course had dropped exceedingly low.

A typical fisherman spent the winter at his fly vise fashioning feathers into creations which gave him considerable pride plus pause to ponder the future productivity of each.

Again The Time.

Straight to a certain pool he drove all through the night. A certain pool where an enormous brown had curtained last summer's season by gaining the sanctum of the sycamore's roots.

The fisherman hurried to the rendezvous and sighed with truly enormous relief. Nobody was there. Slowly he worked his way toward The Place. The time was right. Some small fish were rising to an early hatch. Then, where the slow, deep current eased around a fern-thatched slab of granite, the big fish rose, exactly where he saw it rise a year ago. The fisherman opened his mouth and began to feed a little longer line. A little longer.

You knew, of course, that the Ignoramus now would gallop suddenly out of the shadows and right spang onto the granite directly over the fish and ask "Get anything yet, Bud?"

The guy who shoots at high-flying ducks or blunders into a pool ahead of another's fly needs to realize particularly in this day, that the outdoors has become so crowded that he should take extreme care not to spoil, needlessly, another's anticipation of its fruits.

Many are the printed rules of common field courtesy—and safety—to guide the hunter. But guides for the deportment of the angler are notably absent. And there are more fishing anticipations lying around loose for the increasing hordes of thoughtless brethren to foul up, too.

The time is high, therefore, for some intensified effort to help retard what appears to be a general decay of courteous water ways. So, for a starter, let's set down a few prima paragraphs to guide the angler's general co duct not only to improve fishing relations b the fishing as well.

1. Never invade another's fishing area.

When meeting another angler, particular in a trout stream, get out and walk f enough around him so as not to scare the fi for a reasonable distance ahead. If he is fis ing a pool—stay away from the pool unle it's large enough to fish well beyond h range. Even so, it's good streamside rel tions to ask whether your own operatio will interfere.

When moving in a boat keep reasonab clear of trolled lines or still fishermen. Nev invade the extreme casting range of anoth.

2. Avoid unnecessary noise or other distur ance.

Don't splash or bang rocks needlessly wh stream fishing. Don't throw things in t water, even after you've quit a pool. An o coming angler may have to wait longer th necessary for things to quiet down. At le he'll *think* so. Don't put down the fish walking close to a stream's bank unle you're fishing or unless you're sure it wo hinder the operations of another.

When running an outboard, be sure to c down speed when necessarily passing clo to fishermen.

3. Never lessen another's angling opport nity by damaging, needlessly, the fish' room and board.

The destruction of such cover and fo larders as overhanging branches (which m impede your own casting) by cutting; t removal of bankside trees and stumps, lo rocks, beneficial aquatic vegetation, sod a the like definitely is bad news for the fi Don't do it. Of course, never pollute eith the water used by the fish or the landsca used by the human eyes. Never needless cause or contribute to muddy water or cau a waterway to become silted or otherw choked. Don't obstruct the passage of fish

4. Never take more fish than actually w be used.

Let usage, rather than laws, govern t maximum number and minimum size of t fish you take. Never unnecessarily injure fish which may be released. Use a disgorg

5. Never cause the introduction of an u wanted species.

Never dump bait pails. The careless unwitting introduction of yellow perch b has ruined many a trout water. Young ca often are very hard to distinguish fr "shiners."

6. Tolerate the other angler's point of vi or selection of gear.
7. Be careful with your hook.

No Joe is welcome in any boat, for e ample, if he shows an inclination towa side-swipe mayhem. Learn to cast witho endangering others.

8. Never miss an opportunity to impro conditions for fish.

Taking ten minutes after the banksi lunch to plunge fresh-cut willow shoots w into the ground may pay amazing dividen during your own fishing lifetime. There a always ways to improve unproductive wat Often a man can do much in a few hou especially to help control erosion or to esta lish cover—or even to improve the beauty the stream. It's funny how fishing anticip tion generally runs much higher on a pre stream or at least one not unnecessar messed up by man.—*N. Y. Conservationist*

Fly Casting Lines Simplified

By Clare Bryan

When speaking of fly casting equipment, ɔo many novice anglers are confused by the ıethod used to denote line size. Knowing ıe A B Cs of your fly lines is far more mple than remembering the letters of your ıvorite radio or television station. With the . B Cs in fly lines we have definite di- ıensions. To learn these letters and their ıbsequent sizes in thousandths of an inch, ıkes but a matter of minutes. But, to learn hat size to use for a particular type of shing is another matter. To become a good y caster, one must first have a basic knowl- lge of fly lines and their construction. More ress should be placed on line knowledge ıan on any other part of our equipment. here being no limit to which we can go in ıe study of lines and their use. Whether e are angling for small brookies or the lver king of the salt, there is a line for sh of every size and for fishing under all ɔnditions. Therefore, we must know our nes before we can balance them to suit the ɔnditions under which we fish and to the sh we endeavor to catch.

All fly lines manufactured today are num- ered by letters from the alphabet. The nallest commercial fly line being a level "I" 022) inches in diameter. The next size rger being an "H" (.025) diameter. Line zes above an "H" change .005 inches in ameter for each change in size. Just re- ember, the nearer the letter to the start the alphabet, the larger the line. An "A" eing .060 and a "AA" being .065 in diameter. ll sizes larger than "AA" are given in ecimal dimensions only. Unless the angler interested in National fame as a distance ıster, he need not go farther than a "AA" ne. This being the very largest used in eneral fly fishing. In years past a larger ıe was used for salmon fishing with a two ınded rod, but that equipment is now his- ry among the light tackle fans today.

The most popular level lines in use today e, "H" (.025), "G" (.030), "F" (.035), "E" nes are variations from the basic levels. A 040), "D" (.045), "C" (.050). All tapered ıgle tapered line being a level with one end pered to a finer point. The length of the per varies from 8 to 16 feet, depending ɔon the manufacturer. The tapered line ing a refinement over the level for ıoother casting and a more delicate lay of e fly. Double tapered lines are tapered each end, giving we might say, two lines one. Level lines, which are the most mmon among novice casters, are the eapest to make. While they are satisfac- ry for most fishing to a certain degree, the ajority of top fly fishermen prefer tapered ıes of one type or another. Among the te of the fly casting fraternity, level lines e used in making special tapered heads for stance casting and for shooting lines. It ing possible for those in the know to make special line for any type of fly fishing, all ɔm a few pieces of level line in various ıgths and sizes.

Choosing the right line for your particular hing is not as difficult as it may seem. ıe first point to remember is, all fly lines ve ample strength to land the largest of our fresh water fishes. Before, choosing a fly line, you must first determine the type of fly fishing you wish to do. To balance a line properly, we must know the distance we will normally cast and the size of the flies we expect to use. For small flies on a small stream, we need not use a line larger than an HEH or HDH. When fishing for large trout on streams of considerable size, we may go to an HCH line and larger flies. For distance we must have weight in the line. We must also have weight in the line to handle large flies. Normally, double tapered lines are used for dry flies up to fifty feet. This distance being ample for general stream and lake fishing. Only when going for steel-head and salmon, do we need to make longer casts. To reach these prized fighters it is often necessary to cast 90 to 100 feet. When bass fishing the majority of fly fishermen cast less than 50 feet. Most bass being hooked at a distance of 30 to 40 feet. On small streams, a cast of 30 to 40 feet is considered a long one.

Dry fly lines should have a front taper of from 8 to 16 feet. The standards vary from one manufacturer to another. The majority increase the length of the taper with an increase in the diameter. When splicing your own lines, a good rule to follow is 8 to 10 feet for HEH, 10 to 12 feet for HDH, 12 to 14 feet for HCH and 14 to 16 feet for GBG. When casting bass bugs with a double tapered line, don't attempt using a line smaller than HCH. A GBG being far better. It is also best to cut the taper back to give the tip more weight. For small bugs and streamers, an HCH should be cut back to a point where it is .035 inches in diameter. Large bugs handle better on a GBG cut back to .040 diameter at the tip. This also applies to torpedo type lines having long or short front tapers. For large dry flies, the front level should not be more than 12 inches. Often times it is best to cut the line back to the start of the front taper. The one rod fisherman who uses double tapered lines, should cut one end back to about .040 diameter for use with bugs and streamers. The other end should have two feet of front level for use with dry flies. That will give two lines covering all general fishing. Merely turn the line on the reel when changing from one type to the other. This is also a good method to follow when going light.

Today many fly line manufacturers are braiding their tapered lines with a front level of one to six feet in length. The long level tip permits the angler to cut his line to suit. Unless you are familiar with proper turn over, you should use caution when cutting the tip to proper length. It is always easier to remove another six inches than it is to add. When using small midges on a heavy line up to 50 feet or more, the tip must be longer than for shorter casts. Otherwise, you will sink your fly unless a long finely tapered leader is used. For general fly fishing, a front level of two feet in length is ample. For a more delicate lay of the fly, go to a finer leader.

Regardless of whether we are casting dry flies, nymphs, streamers or bass bugs, it is the firm belief of the writer that all lines should have a forward taper. While the length of the taper will vary for good casting, a tapered line will without question, cast far smoother than a level. Delicate casting calls for a long front taper. Heavy lines should have long tapers for dry flies and small lines short tapers for large flies. There being no one line balanced for all sizes of flies and all distances.

In fly casting we cast the line with the fly merely going along for the ride. Therefore, the line must be so constructed it will have weight, a certain amount of spring and with a bit of stiffness. Years ago our fly lines were merely twisted linen with a treatment of wax to make them slide through the guides of the rod. Later, lines were braided and then given an enamel finish. While the enamel line was a farcry from the old wax line, it was merely a stepping stone to the modern Oil Waterproof lines we have today. Present lines are more supple, will not twist as easily, will slide through the guides more freely and will take more abuse. Consequently, they will last longer. Fly lines to cast easily must have an exceptionally smooth finish. Otherwise, friction through the guides will retard the cast considerably. Rough lines will also wear the guides rapidly, which in turn will wear the finish of the line.

When it comes to choosing a fine fly line, silk is still the leader for good casting. Silk has a higher specific gravity than nylon, (the ratio of weight of any volume of line to an equal volume of water). Therefore, silk will handle in a strong breeze much better and will shoot much farther. This has been proven conclusively by tournament casters who make a thorough study of lines in an effort to win a championship. Experienced fly fishermen also appreciate silk lines when fishing those hard to get to streams and when it is necessary to reach out yonder.—Tackle Topics, Box 1084, Chicago (90), Ill.

Stream Improvement You Can Perform

(*From page* 13)

ing hooked fish is an art. In extremely hot weather, speed is urgent, don't keep the fish out of water long. If you are not making much headway after a few minutes, put the fish back in the water for a couple of minutes. Then resume your work. Don't pull or tear at an imbedded hook. Cut the gut or line very close to the jaw and release the fish. In a few days the hook will disgorge itself due to the acid in the fish's system.

If the hook is merely through the lip or jaw, work it loose gently and easy. Don't throw the fish back, then return to catch him again.

In closing a little phrase of mine. "Want better sport?" "Be a better sport!"

Don't Sell That Fisherman Short

Don't sell that fisherman short!

Be careful how you worry over the sight of Old Joe Whoziss trudging out to his car early in the morning, loading on his outboard, gathering up his box of tackle, his fly rods, his bait casting rods, and the thousand and one other things that go to make up the trip of a confirmed fisherman.

You shrug your shoulders and remark to your next door neighbor. "There goes Old Joe again. Heading off to waste some more good time on a fishing trip and I'll bet my bottom dollar he won't catch enough fish to pay for that new fangled bug he bought yesterday to use on his trip."

Yep! Shameful waste of time! Says you.

But wait a minute, don't forget that Old Joe has never yet failed to take care of his family, and if you've watched that oldest boy of his, he seems to get along all right. Yep. But he's a fisherman too! Spends every spare minute he can get out on the edge of the Jone's pond. "Shameful waste of money and time," you say and add, "a good thing every body is not like that. Boy! What would we come to!"

Just a minute, brother. We will admit that not everybody is like that, but a heck of a lot of 'em are. And— since you are talking so much about the wasted money and time, let's examine that a bit and see what the picture really is.

Now you take the number of people that fish. We're not talking about those people who fish without paying any kind of a license. The hook, line and pole fishermen who depend on the elastic wiggleness of a worm to provide the attraction for Mr. Fish, lurking in the depths of a pool or hole in a stream, they do not buy a license at all. We're talking about the fisherman who buys a license and uses casting rods, fly rods and artificial lures as well as live bait to seek his fishy prey. That's the type that buys licenses and lots of them. Last year (ending June 30, 1949) fifteen million, four hundred seventy eight thousand, five hundred and seventy bought fishing licenses in the United States and Alaska. They paid the enormous sum of $32,657,940 for those licenses, and that was just a drop, a very small drop, in fact just a droplet . . . and a small droplet at that, compared with the amount of money those same fishermen spent when they started buying outboards, baits, rods, boots, camping equipment, gasoline, oil, tires, cushions, and so on ad infinitum. On all this 'junk,' every bit of it handled through the regular marts of trade—all a definite part of the economic life of your community, your county and your state—those fifteen million odd fishermen spent the stupendous sum of over two billion dollars.

So—my friend—the next time you turn your nose slightly skyward as you see Old Joe Whoziss gathering his stuff together for a trip out into the open, to the shore of some like or stream, remember that he is a very large part of the economic life of the community in which you live. No matter where it is.

Remember this also when you hold forth on the terrific amount of wasted time—that many a man has whiled away the hours besides the quietude of some meandering stream or on the shore of some quiet branch shaded lake and felt the peace and pleasantness provided by nature creep into his soul, relax his tangled nerve ends, slow down that pulsating blood pressure and under the influence of nature's healing processes found renewed strength to take up the battle of the morrow.

Ruin or Redemption?

(*From page* 6)

the average farmer is no more prepared to solve all his own erosion problems alone than he is prepared to solve all his own legal or medical problems alone. He needs specialized, scientific assistance, and the government is making that assistance available because the nation also has an interest and a responsibility in the protection of soil resources.

For example, to handle excess water safely, on sloping land, it is usually necessary to build terraces or ditches. The terraces need to have protected outlets, or the water will begin to cut into the soil. And even after you have moved the water safely off the field, you need a place to put it. For the farmer to solve such problems of water disposal all alone, he would need to have some degree of proficiency in engineering. But most farmers do not have this specialized type of training. Most farmers are not engineers, or hydrologists, or agronomists or foresters. They are farmers, and when it comes to a matter of dealing with an erosion problem on their land, they usually require the help and advice of a trained soil conservationist if they are to arrive at the correct solution.

Such technical service is being made available to farmers through the Federal Soil Conservation Service.—*Ohio Conservation Bulletin.*

A very careful driver approached a railroad crossing. He stopped, looked and listened carefully. All he heard was the car behind crashing into his gas tank.

A rude and vulgar man is one who stares at a girl's figure when she's doing her best to display it.

Can You Name It?

THE BELTED KINGFISHER

What's New in Fishing Books

Reviewed by Hugh Johnson

One of the things that sets fishing in a class by itself is its universality. From the Frenchman fishing from the banks of the Seine . . . to the big-time sportsman battling the giant mahrseer in the rivers of India . . . to the fugitive from the noisy confusion of Philadelphia casting a blue dun over rising trout in the Brodheads, *all* fishing everywhere has the same basic appeal. Fishing doesn't have a flag or a national anthem. The same applies to the literature of angling so that we find American fishing books published in England and on the continent, and English fishing books imported here for publication in the United States.

The Enterprising Angler by W. A. Adamson (just published here by William Morrow and Co., New York, $4.00) is about as English as Piccadilly Circus—as far as the writing style is concerned, and with special reference to the quiet chuckles of English humor pervading the entire book. But what Mr. Adamson has to say is of interest to any fisherman anywhere and especially to those of us who favor the brown trout and can occasionally get off for a little salmon fishing. The underlying theme of this casually written book—which should be read in the deep comfort of one's favorite easy chair with slippers on the feet and a glass on the chair-side table—derives from the title. Angling conditions being what they are today, with more and more rods working every fish and hence smarter fish, it takes an *enterprising* angler (who is willing to deviate from traditional methods) to line his creel with fish instead of with forget-me-not sprays.

The book deals with fishing in the various rivers and lochs of the British Isles, and with exciting expeditions into the remote lake regions of British Columbia in Canada after the famous Kamloops trout. These engagingly written stories of the author's experiences provide a garden of endlessly enjoyable reading, which the reader will wander through again and again just as the home-gardener ambles time after time through his rows of flowers savoring their color and variety. The best thing about the book is that through the bloom of all these stories the reader can see the solid root of fishing facts and useful lore which are applicable to angling in the streams around State College, Pa., almost as much as to fishing in the feeder waters of Loch Lomond. It is quite right to compare this book to a garden because there is a capitivating beauty to the author's style and an appeal to return again and again to what he writes, that reminds one of the philosophic pleasure that a home-gardener derives from his own plot.

Let importations of English angling books continue in full flow, if they are all as good and as completely satisfying as *The Enterprising Angler!*

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

Further Action To Clean Streams

Orders to provide a higher degree of treatment of the sewage by building additions to the present sewage treatment works have been issued by the Sanitary Water Board under the Clean Streams program, to Mars, population 1,350; Evansburg, population, 1,600, and Harmony, population 850, all in Butler Co. The orders require that the additions shall be in operation not later than two years from the date of the order.

Each of the communities have sewage treatment works providing primary treatment which must be increased to secondary treatment to meet the requirements for the streams along which they are located. Mars and Evansburg discharge the partly treated sewage to Breakneck Creek, a tributary of Connoquenessing Creek, and the partly treated sewage from Harmony is discharged to Connonquenessing Creek immediately above Zelienople. Plans for secondary treatment by the municipalities were previously approved and permits issued by the Board.

Butler and Zelienople on Conoquenessing Creek now operate sewage treatment works of complete treatment. Ellwood City, also along that creek, recently approved a bond issue in the amount of $175,000 and has about $65,000 from a previously approved bond issue for enlargement of its treatment works. Construction of secondary treatment facilities by Mars and Evansburg will complete the cleanup of Breakneck Creek and similar action by Harmony will provide adequate treatment of sewage from that community prior to its discharge to Connoquenessing Creek.

Bethlehem has joined the list of municipalities which are building and planning to build sewage treatment works under the Clean Streams program. The Bethlehem recently awarded contracts totaling $4,334,590 for a complete intercepting sewer system and a sewage treatment works which will contribute greatly to the cleanup of the Delaware River watershed.

Treatment Systems Approved

Permits approving plans for waste treatment systems have been issued by the Sanitary Water Board to additional industries in advancing the Clean Streams program. In each instance the permits were accompanied by orders to construct the systems and to have them in operation by specified dates.

The concerns are: Paper Products Mfg. Co., located on Crum Creek in Montgomery Co.; New Enterprise Stone and Lime Co., located along the Frankstown Branch of the Juniata River; Mooney Brothers Supply Co., New Castle, located along the Shenango River; James Lees & Sons Co., Bridgeport, located along the Schuylkill River; Bethlehem Cornwall Corp., located along Furnace Creek; Howe's Leather Co., located along the Allegheny River; Standard Pressed Steel Co., located along Baeder Creek; Philadelphia Gas Works Co., located along the Delaware River, and the Woolrich Woolen Mills, located along Chatham Run.

Additional Sewage Permits

The Sanitary Water Board has issued additional sewerage permits under the Clean Streams program which contain authorization for construction. The permits have been issued to the following: Shinglehouse, Potter Co., intercepting sewers and sewage treatment works; Loyalsock Township, Lycoming Co., additional sewers; Grove City, Mercer Co., additional sewers; White Oak, Allegheny Co., additional sewers; Duquesne, Allegheny Co., additional sewers; Norwood, Delaware Co., low level sewer system and pump station to operate with existing sewer system.

At the same time the Board issued orders to seven additional industrial establishments to abate pollution of the streams or to submit plans for treatment of the wastes. The concerns are Van-Dye Corp., tannery; Coplay, Lehigh Co.; Shinglehouse Cheese Factory, Shinglehouse, Potter Co.; Lewisburg Mills, textile, Lewisburg, Union Co.; Supple-Wills-Jones Milk Co., Paradise Township, Lancaster Co.; Stocker Brothers Dairy, Forks Township, Northampton Co.; American Nickeloid Co., Walnutport, Northampton Co.; Mountville Wall Paper Co., Mountville, Lancaster Co.

Court Bans Mine Acid Discharge

Discharge of acid mine waters from any lands or coal mining operation into Indian Creek or its tributaries above the dam of the Mountain Water Supply Co., in Fayette Co., is permanently forbidden in decrees recently entered by the Fayette County Court on action brought by the Pennsylvania Sanitary Water Board, and the water company. The decrees, entered against 30 land owners and mine operators, are based upon that section of the clean streams used for public water supplies or recreational purposes. The Mountain Water Supply Co. supplies water to a number of municipalities and to the Pennsylvania Railroad Co. Issuance by the court of decrees against the land owners as well as against the mine operators is looked upon as an important phase of the case by the Sanitary Water Board. Deputy Attorney General Robert J. Trace and Special Attorney General Joseph J. Baer, Uniontown, represented the Sanitary Water Board.

Scheduling New Film

"Waters of the Commonwealth," the moving picture being produced for the Sanitary Water Board telling the anti-pollution story in Pennsylvania, will be available for general use some time in October. It will be in color and with sound. Showing will take about 25 minutes. The film will be available with or without a speaker who will tell about the Clean Streams program. Make your request to Publicity, Sanitary Water Board, Pennsylvania Department of Health, 533 South Office Building, Harrisburg.

Desilting Systems In Operation

Desilting systems were placed in operation during the past few weeks at five anthracite breakers in the Wilkes-Barre-Scranton coal fields as a result of the Clean Streams program, which prevent the discharge to the streams where the material formerly went, of 800 tons of silt and fine sizes of coal each working day. The North Branch of the Susquehanna River and the Lackawanna are effected by the cleanup.

There are 54 active collieries in that area of the anthracite fields, 45 of which now have desilting systems in operation. Of the remaining nine operations, installations are under construction at three of them while at six operations, all of them small or marginal operations, still have a few months for construction under orders issued by the Sanitary Water Board. There were 64 collieries in the area when the Clean Streams program got under way, but 10 of them have discontinued operations since that time.

The most recent installations are at the Pine Ridge Colliery of the Hudson Coal Co. where a 120 foot diameter clarifier was installed; the Moffat Coal Co., settling basin, pumps, shafts and pipe lines, provision having been made for reuse of the clarified water; Woodward breaker of the Glen Alden Coal Co., sump pump and surge tank to provide for reuse of the clarified water and the discharge of the silt to worked out mines; Pompey Coal Co., silt basin, and the Loomis Breaker of the Glen Alden Coal Co., auxiliary settling basin. Fine sizes of coal are reclaimed in spiral separators.

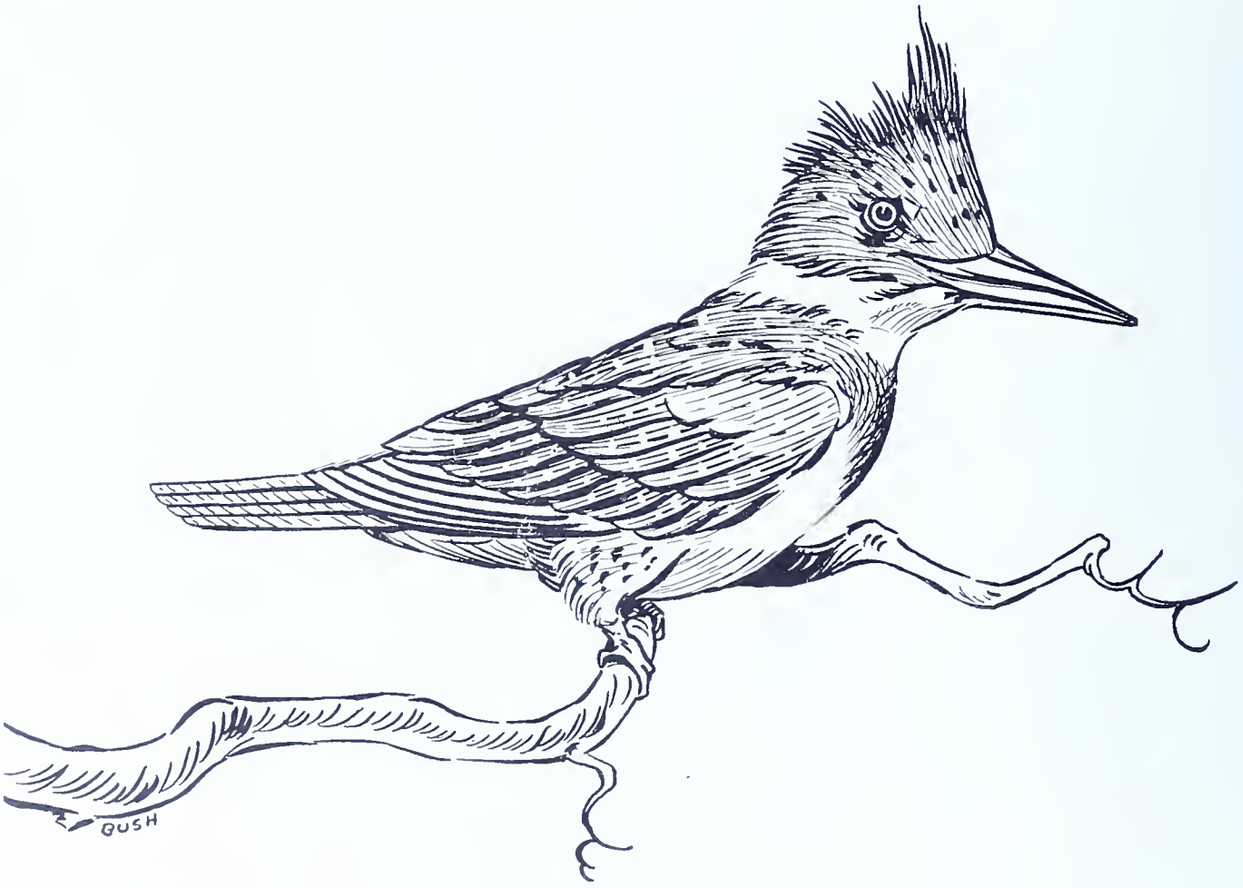
Action on Sewage Permits

Sewage permits approving plans and authorizing construction have been issued in 11 additional cases by the Sanitary Water Board. They are Harmony Township, Beaver Co., connecting sewers and sewage treatment works; Morrisville, Bucks Co., sewer system and sewage treatment works; Neville Township, Allegheny Co., sewer system; Baden, Beaver Co., intercepting sewers and sewage treatment works; Cumberland Co. Institution District, Middlesex Township, Cumberland Co., sewer system and sewage treatment works; East Stroudsburg, Monroe Co., sewer system and sewage treatment works; Spangler, Cambria Co., sewers; Whitehall, Allegheny Co., sewers; Greater Pittsburgh Airport, Moon and Findlay townships, Allegheny Co., sewage treatment works; Hummels Wharf Municipal Authority, Monroe Township, Snyder Co., sewer system and primary treatment works.

The Board also ordered that White Oak, Springdale, Springdale Township, Cheswick, Harmar Township and Trafford, each submit a report of the steps which are being taken by those municipalities to comply with the Board's order to prepare plans for sewage treatment works.

An Object Familiar to Fishermen . . .

Can You Name It?



THIS BIRD IS QUITE A FISHERMAN. HIS RAGGED CREST, HEAVY BLACK BILL ARE EASY IDENTIFICATION MARKS. HE HAS A HARSH, RATTLING CALL. THE LENGTH OF THIS BIRD IS 11-14 INCHES.

(See page 24 for answer)

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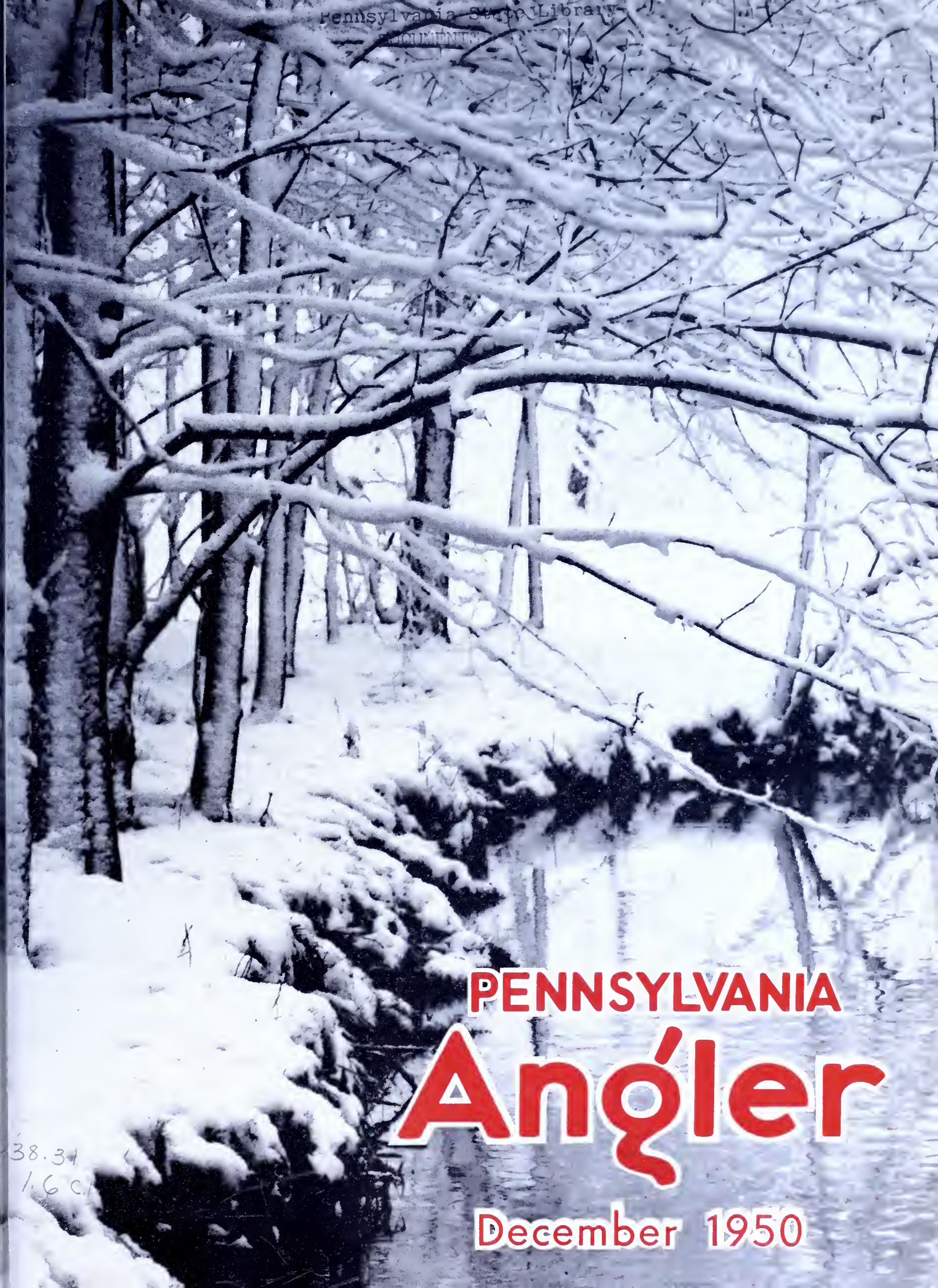

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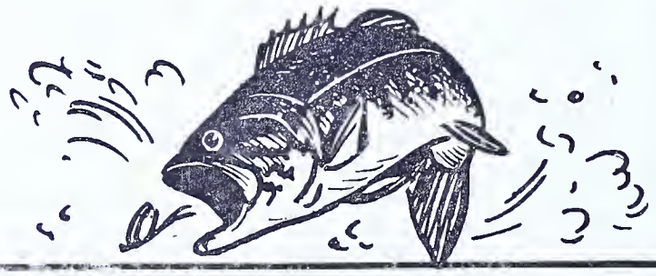

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
FISH COMMISSION
HARRISBURG, PA.

The Angler

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The Cover . . .

Trees foliaged with snow dress a eadow brook in winter beauty.

A Merry Christmas

As we once more approach the warmth of another Yuletide season it is with deep sincerity that we bow our heads in grateful thankfulness for the bounty of good fortune enjoyed by we of this great state and nation.

"White Christmas" and "All I Want For Christmas Is My Two Front Teeth" will soon be filling the air, and we of the PENNSYLVANIA ANGLER pause to reach out as it were in the extended handclasp of honest-to-goodness hospitality and once more wish to you and all of you a very MERRY CHRISTMAS and a HAPPY and prosperous NEW YEAR.

Altoona's Planned Fishing

By Lou Maierhofer

ALTHOUGH planned recreation has been termed socialistic by many civic leaders it certainly has brightened the vacation days of several thousand youngsters in the Altoona area.

During the past summer the Altoona park and recreation board decided to go in for 'planned fishing. David W. Langkammer, hard-working superintendent of the city board, was fascinated by the large number of adults in the city carrying Pennsylvania's familiar circle shaped fishing license.

At first his interest in the sport of fishing appeared to be nothing more than personal curiosity, but later his motives came to light. Langkammer wanted to know where these men did their fishing. As a newcomer to the city he had seen nothing but the polluted little Juniata river.

The recreation director expressed amazement when told that other than for a few trout streams most Altoona anglers traveled 40 or more miles for fresh water fishing.

But what about the youngsters? Where do they fish?

He was answered that a private park's lake, a few miles from the heart of the railroad city, was stocked with carp, catfish, panfish and a few black bass. After an investigation he found the lake too far for most of the youngsters.

His interest had been motivated into a keen desire to get 'nearby' fishing for the youngsters.

The city has two abandoned swimming pools that in their heyday were classed as the first and second largest privately-owned outdoor mountain water pools in the nation.

Immediately he went to work on the owners.

Ivyside's once proud and majestic swimming pool and park had been taken over by the Altoona Undergraduate Center of the Pennsylvania State College for class purposes.

Nela Beach, one of the first electrical lighted pools in the state for night swimming, abandoned in the early 1920's, had been grown over with weeds, the cement retaining sides had cracked and nature had filled the pool with sediment.

At the Beach Langkammer had already utilized the property with proper consent of the owners for winter ice-skating as part of the city recreation program.

Officials of Penn State were contacted for permission to use the warming dam at Ivyside, which at one time supplied more water for the swimming pool in one year than the average town of 2500 consumes in a twelve-month period.

Previously the Altoona Wildlife Conservation club with a similar project in mind had been turned down by the college board of directors.

ANTICIPATION—Youngsters waiting for a a few days before close of season. Less than minutes after photo was taken by photographer, curly-haired girl sitting beside telescopic steel rod, caught 18-inch carp. Eddy Davis (with rod) and Timmy Hinkle in foreground. Joe Conklin, Pete Murtiff and Daniel Daniels in background. (Altoona Mirror Photo).

The board said it feared that the danger of youngsters possibly drowning in the eight-foot deep warming dam would not compensate for the fishing pleasures. However, they finally broke down and granted permission for its use provided that a fence be erected to keep away youngsters at night.

The swimming pool had been converted into a parking lot for automobiles of the faculty and student body.

Interested sportsmen quickly came to the scene. C. B. Baughman of Roaring Spring, Fish Commission protector for the southern district of Blair County, was called in for advice concerning the commission's viewpoints on such projects.

William (Old Bill) Templeton, president of the Blair County Game, Fish and Forestry association, threw the support of his club behind the fish stocking program. The membership, approximately 3000, the largest and most active in the Altoona section of the state, adopted a resolution furthering the program.

Charles W. Kustaborder of the association's fish committee swung into action. With Kustaborder Fish Warden Baughman stocked over 2500 carp measuring from 11 to 22 inches, in the two bodies of water.

Following the stocking of Ivyside there was some skepticism concerning Nela Beach. For years mischievous and roguish youths had caused much destruction to the property.

When contacted Charles and Frank Filer, brothers, not only granted permission but offered their cooperation.

The owners were seen quite often at the Beach which when their father had owned it was twenty times its present size and accommodated almost

NORMAL DAY AT NELA BEACH—General scene. Fish weren't biting day this photo was taken. Kids complained in similar style of parents, "Fish jest ain't bitin' the way they did last week" was a normal complaint. Building in background is Our Lady of Victor Chapel.

wo thousand swimmers every day. he brothers helped the youngsters ait hooks, cast and unsnarl those ever-ceasing back-lashes on the 25 ent reels.

The instigators of the fishing project nought there would be little interest n the sport the first year. They ex-ected a "handful" on opening day.

Children, both boys and girls, aged ght to eleven, were told to register Monday in newspaper stories carried n a previous Saturday. Tuesday was heduled as registration for children om twelve to sixteen years old.

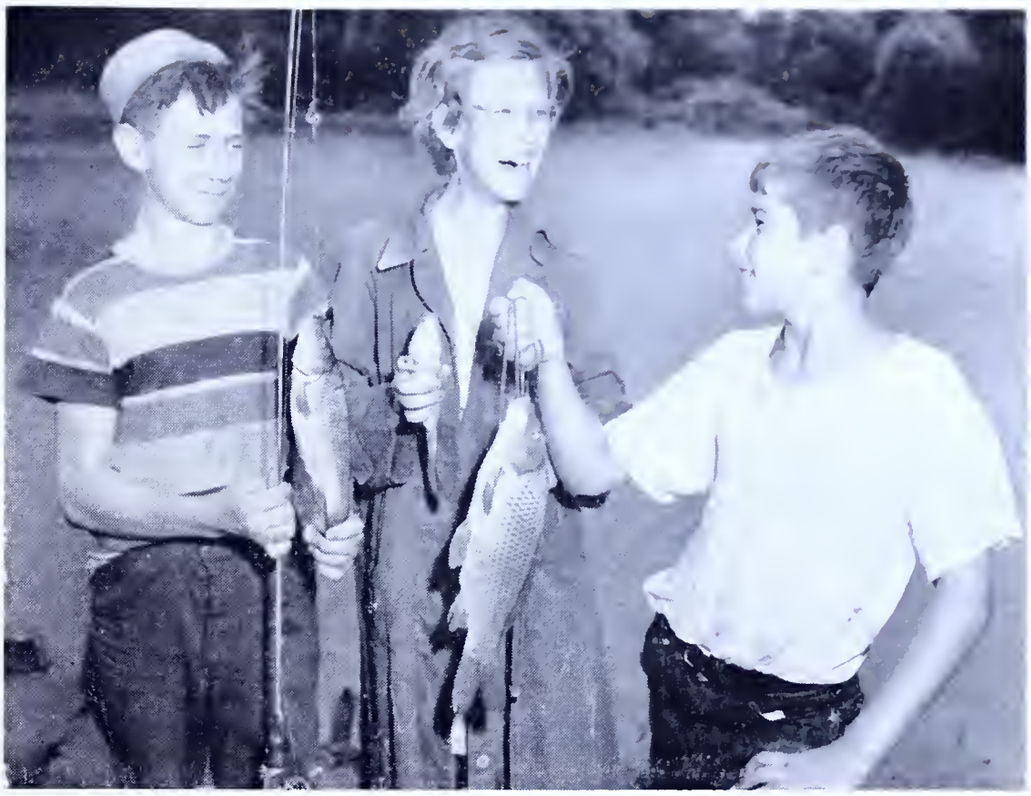
The response was terrific. Approxi-nately 1000 children the two age roups registered at the fishing site. ll were given a yellow membership ard with five basic rules.

The sites were cramped. The com-ittee of which Langkammer had rmed sub-committees, almost imme-iately looked still further for more ich sites. Their efforts were met ith disappointment.

The city had no other abandoned vimming pools or dams and those in e outlying areas were too far away be practical to a large number.

The volunteer supervisors felt the ly solution to the hazardous large owd at both sites was to allocate the shing hours. The sportsmen associa-on volunteered to send supervisors see that the hours of fishing were eyed. Youngsters in the eight-to-even age bracket were given Mon-ays and Wednesdays and the others p to 16 years of age were allocated uesdays and Thursdays. Supervised shing on the four days was from 8 .M. until 11 A.M.

The children fished in the after-noons and over the weekends when their parents kept sight of them.



THE FISH THAT "DIDN'T GET AWAY"—(Left to right) Bill Green, aged 13, of 2403 Fourth Avenue, Altoona; Marlene Conroy, aged 12, of 1229 Fifth Avenue, Altoona, and George Rexford, 13, of 203 Fifteenth Street, Altoona. Scene at Nela Beach. (Photo by Lynam).

HERE'S ONE IN THE BAG—Twelve-year-old mes Taylor of 109 West Ninth Avenue, Juniata, toona, lands a 22-inch carp at Ivyside Park rming dam on the second day of fishing there. ltoona Mirror Photo).

The children, of which there were almost as many girls as boys, were catching the recently stocked carp and proudly showing their catch to friends.

It was no strange sight to see a youngster pass downtown Altoona in the midst of shoppers with a sun-dried carp thrown across his or her shoulder.

The advertisement created even more problems. Several fathers accompany their youngsters watched the sport with envy.

More and more parents accompanied their children to the pools even though no one over 16 was permitted to fish. Autos were parked five and six deep in block long rows. Several boys even risked fishing at night equipped with nothing more than a kerosene lamp or torch. The night fishing was contrary to the posted rules.

Members of the Blair County Game, Fish and Forestry association, armed themselves with the 'white' books given all anglers at the time of purchase of a fishing license. The men taught the young folks how to catch fish, but mostly how to abide by the state's rules and regulations. Surprisingly most of them showed a keen interest in the lessons and actually learned the rules.

Officially the program climaxed with a fishing rodeo the latter part of August. Prizes were awarded by local and national business concerns for the largest, smallest, first and last fish caught.

Langkammer promised that the innovation as far as the western part of the state was concerned is only the beginning of a still more extensive program for Altoona area youngsters in 1951.

He gave numerous reasons why the city's park and recreation board is seeking to develop and extend its overall program to include a wholesome outdoor activity for the children. Among the aims are:

(1) Increasing facilities or conveniences where interest is already shown or clearly indicated as present.

(2) Creating interest in new activity.

(3) Promotion of an activity which is fundamentally one dealing with nature.

(4) Making further utilization of the water impounded areas—fishing in summer and ice skating in winter.

In conjunction with the city program the Blair County Game, Fish and Forestry association has adopted the following platform in its program for the youth of Central Pennsylvania:

(1) Create and develop proper regard for property of others.

(2) Create and develop proper courtesy among fishermen.

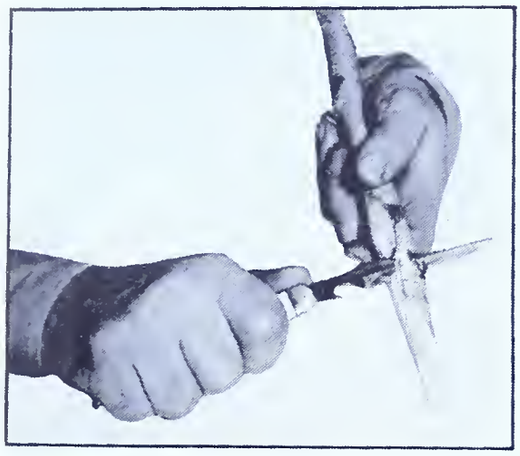
(3) Respect for nature and its contributions toward mankind.

The 1951 program looms as a unified sportsmen project for the entire area. The Blair County Federation of Sportsmen clubs, whose main programs are aimed at youth, has already gone on record in favor of the projects.

Several members of the Federation have gone on record as favoring at least ten such fishing and supervised projects for Blair County in 1951.

Helpful Hints for Better Outings

By Don Shiner



Carry a good knife and above all, keep it sharp.

A plastic rain cape is indeed welcomed if you happen to meet a sudden shower.

MANY times while preparing for a fishing outing the anticipation reaches such heights that, aside from the rod and reel, many of the little handy times are overlooked and are left at home. Of course, a day of angling for trout or bass doesn't always call for these little "extras," but the mere fact of having them along on the trip can give some real satisfaction and if the time arrives when they are needed, you then have them at hand.

Supposing, while fishing a nice stretch of a stream, it begins to rain. Do you crawl under a nearby tree for shelter or stay out and get soaked to the skin? How about a pair of sun glasses, do you include these in your tackle or punish your eyes when the sun sends its scorching rays on the water? If your rod happens to break, can you fix it on the streamside or must you sit idly by the remainder of the day watching those trout continue to rise?

These are only a few of the little incidents that take place on nearly every outing. If you carry a few "extras" to take care of these, you will find that the outings are enjoyed many many times more!

Take for example a plastic rain-cape, it is one of the handiest pieces of equipment for sportsmen to have, yet it takes up barely more room than a package of cigarettes. Some fishermen don't seem to mind standing in mid stream during a sudden down pour of rain, then again, others object to this no matter how fast the fish are striking. These light weight non-cumbersome rain capes, the type that rolls up in a very small package, can be tucked in a short pocket or creel, and its added weight is hardly noticed. If and when a sudden shower approaches this type of rain-wear can be slipped on in jig time and after the rain, the fishermen is as dry as a duck's ba There are no wet clothing to cling your person, yet without one of th light weight rain-capes, one wo have to depart for shelter and m some of the best fishing. Very oft a sudden rain encourages the fish start feeding.

Another handy thing to enclude your tackle is a hone. The points the fly hooks and other lures a bound to get dull after catching a nu ber of fish or snagging the bottom the stream a few times. A few strok over a hook hone will make its po razor sharp again. A dull hook often the answer for missing a str ing fish, so check the point frequent A hone the size of a pen knife carri with you can put fish—extra fish the creel.

Then there are your feet, do th generally tire excessively after a da hike over the rocky shoreline? heavy pair of wool socks worn the boots not only cushion the fe against the sharp stones, but rubb causes the feet to perspire and wo absorbs this moisture quickly. Th too, if you manage to get a wet fo by having a hole snagged in the bo or by stepping over the boot to wool socks keep the feet in good co dition even after being wet for entire day. An old timer once sai "Don't venture astream unless y have included wool socks in yo gear," and this is mighty good advic

Small fly hooks, sizes 14 and 16 a dandy hooks to carry with you. R gardless of how one fishes, there a times when it is found necessary to u live bait. With a supply of small hool a supply of minnows can be caught ar a switch to bait fishing can be mac in short time. A net undoubtedly wi catch minnows a lot quicker and c a bigger scale, but to carry a minno net is not as simple as putting a fe

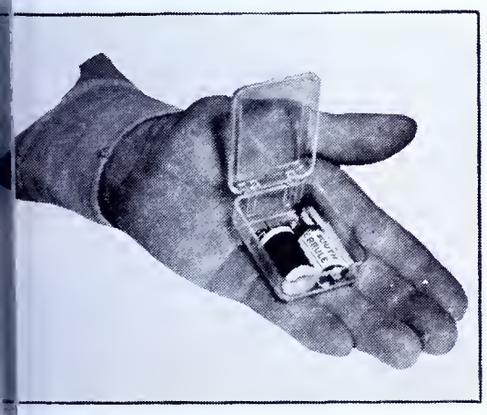
A pair of long nose pliers is one of the handiest tools the fisherman can carry.

Carry a few small hooks, sizes 12 to 14, for catching minnows to use as bait.

Use a hook hone to sharpen the point fr quently.

When the sun sends its rays down on the ter, a pair of sun glasses is a welcomed relief.

or comfort always wear a pair of wool socks.



tiny rod repair kit can save the day from ster if you happen to break your rod while s from the nearest town.

rry an assortment of lures but keep these minimum amount of boxes.

small hooks in a tiny box and enclosing it in your shirt pocket.

There is no better tool for the angler than a pair of long nose pliers. Those who have carried a pair remark that they wouldn't venture a stream without them any more than they would without a rod or reel. To disgorge hooks, cut leader wire or make loops in the leader material, to straighten bent hooks, cut off a barb if the hook happens to sink into your flesh, improvise a guide for the rod, these and kindred other chores can be done with the aid of these pliers. A few drops of reel oil applied occasionally will keep them from rusting. Add a pair of these to your kit.

By all means carry a good sharp knife too. You might fancy a heavy type that is generally slung in a sheath and carried on your belt, or a small pen knife. What ever type you may choose, keep one handy at all times and above all, keep it sharp. When it is dull, rub it a few times over the hook hone, then over your leather belt to take off the wire edge. Along with the rod, line, hooks and pliers, a knife is an indispensable tool for the fisherman.

Then there are the sun glasses. Staring into the glaring sun or its reflection on the water can be highly uncomfortable and painful. A bad sunburn on the delicate tissues of your eyes can do a barrel of harm. Then too, a pair of sun glasses actually help you to see and penetrate the depth of the water. With the glare cut to a minimum, you can see much deeper in the water and in many cases actually see the bottom and fish more clearly. This has a decided advantage, especially when fishing hard fished waters. It might mean spending considerable time in spots or pools that are inhabited only with minnows.

Don't settle for a cheap pair of sun glasses. The lens in an inexpensive pair can often filter only part of the harmful rays from the light and are more detrimental to your eyes than it would be without any glasses at all. So don't settle for anything short of the best, for they are the cheapest in the long run.

You may have had your rod completely overhauled only a few days prior to going astream or may be using a brand new rod, but with too much eagerness to land a whopping big fish, the tip can splinter, or the rod can break at the ferrule. A small rod repair kit is mighty handy at such times. You can easily make up a kit by assembling a few items such as a spool of thread, ferrule cement, water-proof matches, a few guides, razor blade and all these can be enclosed in a celluloid tube or plastic case. You may not need the services of such a kit for years, then again, disaster may strike on the next outing and it is needed the worst kind of a way. For the small amount of room it takes up, carry a kit such as this and many of your fishing trips may be more enjoyable.

Should the rod break at the ferrule, a small fire can be built along the stream side and the bamboo remaining within the ferrule can be burned out. The ferrule can then be recemented or forced on the rod section again. Likewise a spare guide can be fastened to the rod, or splintered section can be repaired by wrapping the thread tightly about it. Fishing a stream miles from the nearest town and suddenly your rod breaks can bring disaster to any fishing trip. A small rod repair kit can save the day.

Another hint for good fishing is to carry a good assortment of lures. Don't overstock yourself with only one type of lure, but instead, carry a good selection. It's a good idea to carry an assortment of dry, wet and streamer flies, a few plugs, spinners, spoons and so on. Only a few of each are needed for a good day astream. Keep these in a minimum amount of boxes so there is room for the other items mentioned as helpful aids while fishing.

These are but a few of the many small things that are generally hurriedly by-passed in the scramble to gather the tackle together for an intended fishing trip. Check your tackle now and see if these items are included, and those that are missing add to the gear so they are at hand on your next outing. They will help you to have an even more pleasurable trip astream.

In the Mailbag

Philadelphia 42, Penna.
November 14, 1950

Editor, Pennsylvania Angler
South Office Building
Harrisburg, Penna.

Of interest to sportsmen may be the fact that my brother-in-law and myself have fished the North Branch Susquehanna for many years below Tunkhannock and last season for the first time we caught two rainbow trout, one 18 inches and the other 14½ inches. We each also lost a rainbow apiece of good dimensions. The fishing pressure is terrific on this stretch of the river, yet the production of bass is remarkable as it is a rare thing to get skunked.

Walleyes have dropped considerably since the three month flow of muddy water in 1948. All in all the North Branch is a grand place to fish and the surrounding countryside needs no apologies from any place in our state.

Howard W. Miller
714 Theodore Street
Philadelphia 42, Penna.

Legend at Lake Edinboro

By Thad A. Bukowski

WE ATE our picnic lunch under the trees at the lake shore at Edinboro and proceeded to find our good friend, Tom Baum, who was vacationing at the lake. I drove the car to a boat landing and asked a little urchin who was fishing in about six inches of water how they were biting.

"Okay," he said, "but you can't get 'em."

"Why?" I asked.

"They fly, they're flying fishes," he told me.

I knew better than to interrupt these childlike reveries and imaginations, so I changed the subject.

"Where's Nell Ann Cottage?" I asked.

"I dunno," he answered.

But an older lad, standing nearby, saved the day. "Up that way," he said and I looked as he pointed to the top of the hill.

Tom greeted us with a handshake and a smile. "Been waiting to see you all week," he said.

"Told you I'd get here, didn't I?"

"Guess you did."

Tom and I emptied my car of the babies' paraphernalia, for I had taken the family with me, left the womenfolk to themselves, and headed for Tom's boat.

For the greater part of the morning, Tom had been working on the tank of his boat motor. "Got some gum deposits in the gas tank," he ventured by way of introductory explanation. "A friend used the motor a while back and didn't empty the tank. See," Tom added, as he showed me brown specks which coagulated when scraped together. "I've been cleaning this tank all morning with a bunch of nuts I bought in the hardware in town." He grabbed the tank and began vigorously shaking back and forth. "And let that be a lesson to you," he added, "That stuff gums up a motor something awful. If you leave gas in a tank for a long while without emptying it you're inviting trouble."

It took some time for Tom to clean the tank. Since I was inquisitive about the lake, he kept giving me a running account of some of Lake Edinboro's history.

"The lake," Tom started, "was originally about half its size, but then they added about six feet or so to the dam and that's what made all these bays that are here. You can go to the other corner of the lake where the stumps are, and then look across the lake back this way towards the golf course and you'll see a large white barn. There's a line of stumps from that corner of the lake all along. And good bass fishing there, too."

Tom shook the gas tank a few times and the nuts rattled scraping more scum off the bottom. "Another thing, Thad," he added, "Did you ever know how the carp got into this lake?"

"No?" I murmured inquisitively.

"Well, this lake is fed by a number of streams. Legend has it that back up the upper end where one of these feeder streams comes into the lake, n old German decided to raise some fd fish. He imported carp, or the spa, built a dam on his farm and began is project. Did good, too, 'till everyth g went whoosh!"

The bass almost threw the artificial back to my face.

"Whoosh what?" I asked.

"Well, the rains came and wasl d away his dams and washed the c p right into the lake. Ever since the – and its been years and years no – those carp have been here at Edinbo. Just goes to show you again wat might result from a little bit of ca- lessness."

"Are the carp big?" I asked.

"Oh, yeah, real big."

"Why don't you fish for them, th? There's sport in getting a big one i't there?"

"Yes, I guess there is," Tom repli, "but I'd rather go after bass."

"I would, too," I added. "Which e- minds me," I continued, "I don't h e too much time here, today. Let's t e a spin out on the lake."

"Okay, let's use my new boat," T m invited.

"The one you built yourself?" I n- quired.

"That's the one."

"I hear you built it in the attic d had to take two windows out of e upper story of the house to get it o? That true?"

"That's the way I planned it," T m smiled.

The boat was a beauty, all of 14 et long, spacious, powered with an ex l- lent motor and fitted with an atta- ment for handling from a wheel in fr t. It was brightly painted, it gleamed of

"I built it from a book on boats," Tom said. "I wondered," I answered, "how a salesman could build a boat like that."

high polish, and the workmanship howed up to full advantage.

"Built it from a book on boats," Tom entured.

"I wondered how a salesman could uild it," I exclaimed and added, "It's pippin!"

We got into the boat and paddled eyond the shore weeds. Tom pulled he cord, the motor roared, and we ere off for a joyride around the lake. pray hit over the sides and the wake wirled away from us in high waves. he air was refreshing and the ride round the lake was most pleasant.

Finally, we set out for the far shore o do some plugging, even though Tom oiced discouraging remarks about uch an afternoon affair.

I attached a favorite, yellow, shiner-caled river runt and cast among the umps into which we had settled. For ome time there were no strikes though e water looked most inviting.

"Don't think they'll hit now," Tom entured. "Too early in the afternoon."

"Well, sometime a big bass will fool ou," I commented. "Remember, last ear one of the biggest bass caught out the lake was caught at noon. Besides, I promised your daughter a bass, nyhow," I added.

"Well, we'll try," Tom replied, as e lifted the motor free of the water nd the weeds, "I'll row along the hore and you do the plugging."

The far shore of the lake was a eautiful place, perfect for bass. Cattail fringed the shoreline which was rther filled out with lily pads at the ater's edge. Stumps and old logs rotruded everywhere and weed beds, vorites of largemouth, were prevaent also.

The far shore of the lake was a beautiful place, perfect for bass.

We casually rowed and plugged for an hour. The bass weren't hitting, but Tom's conversation was interesting, the air was invigorating, the sun was not too hot, and the boat rocked gently as the waves periodically pushed us along in a slow drift. Who could have asked for anything more serene?

"They've caught some muskie here a couple of weeks ago," Tom stated as he noticed me fastening a rather large "Lucky 13" Heddon plug onto my line.

"They did?" I remarked, "How big?"

"Well, the largest was 45 inches and 35 pounds."

"Here in Edinboro Lake?" I queried.

"Yes, here in the lake," Tom answered my incredulity. Tom was rather vehement but I should have known Tom's pride for Edinboro for Tom was just about Old Man Edinboro himself—he'd been vacationing at the lake for 20 years.

We rowed on to a different spot and I tried the river runt again. This time it was successful as a bass hit it directly next to a stump. The bass hit sluggishly, as though it had just been awakened from its afternoon siesta, and when it finally awoke it broke water near the boat and almost threw the artificial back into my face. But we finally landed it.

"Well, that one surprised me," I remarked.

"Me, too," Tom said, and added, "I think I'll be back for another one this evening with some minnows."

"You've got two weeks," I reminded him, "You ought to get a few more around here."

We continued our plugging but the rest of the afternoon proved uneventful, so we motored back across the lake, anchored the boat, and I packed up to leave.

"Come again," Tom invited as we were leaving.

"I'll be here," I said, "and maybe we'll get a muskie."

"Yeah, maybe," Tom echoed and waved as we started our journey back home.

The bass hit sluggishly, directly next to a stump.

Jap Beetles for Bait

Did you ever use Japanese beetles for bait? In season they are as good a bait as you can find. Examine the stomachs of your catch and you will find bass, sunfish, catties and carp must like the taste of Jap beetles. Sunfish especially go for Jap beetles.

"Southeastern Jottings"

By Ellen Dietric

(Left to right) Victor Sweet and Stuart Hutchison, both of Ardmore and members of the Lower Merion Rod and Gun Club, inspect a fly rod.

FOLKS all along the Schuylkill River are marvelling at the continued impetus being given by the present State administration to the gigantic Schuylkill River cleanup, as well as to the State-wide clean streams movement; and they express the hope that the next governor of Pennsylvania will be as staunch a friend of the sportsmen and of clean streams and general conservation as Governor James H. Duff has been. For, not only will health, recreation and industry reap future benefits from clean water, they point out, but already fish are actually being caught in numerous streams of the Commonwealth where they have been unable to survive for years.

Daniel Boone Rod and Gun Club

Members of the Daniel Boone Rod and Gun Club joined other Berks County sportsmen on Sunday, September 24th, on an inspection trip conducted by District Supervisor Morris Stewart and Al Bachman, both of the Game Commission's Reading office, through several of the Game Commission's lands. The boys had heard of the great amount of work accomplished on the game lands in the interests of food, cover and game management and they had looked forward to this trip, which they subsequently reported was most worthwhile.

Delaware County Field and Stream Association

The Delaware County Field and Stream Association reports that it won't be able to use its fish rearing ponds for a while. But this club did this summer receive 1600 day-old chicks from the Game Commission and they had them raised at a local turkey farm for release throughout Delaware County in October.

Dover Fishing Club of Philadelphia

The salt water casting team of the Dover Fishing Club of Philadelphia added another honor to its list by bringing home the coveted Ocean City Cup from the annual salt water contest held at the Belmont Race Track in New York. The winning team was composed of Willard Bowman of Upper Darby, George Lentz of Roslyn, Ralph Bowman, Joe Brown and Wes Wahls, all of Philadelphia.

Hellertown Sportsmen's Club

In addition to a busy fishing and casting season, the Hellertown Sportsmen's Club raised and liberated 107 ringnecks during the past summer. They also stocked trout in club nursery pools for future release, in preparation for which club members rolled up their sleeves and cleaned and repaired the pools in which fish are reported to be "doing nicely."

Holmesburg Fish and Game Protective Association

Fresh and salt water fishing and casting as well as various shooting events, kept members of the Holmesburg Fish and Game Protective Association busy all summer, while both casters ar shooters "sharpened up" their equi ment for some time in preparation fo their annual fall outing held Octob 8th. Since early in September th club's trapshooters have been on the fall and winter semi-monthly tra shooting schedule, with Sunday afte noons chalked up for this sport. A summer, while the days were longe Thursday evening shoots were al popular with this club.

Lower Merion Rod and Gun Club

On one of those days when smok from Canadian fires provided that ph nomenal "purple sun"—seen once in "blue moon," said scientists—the Low Merion Rod and Gun Club held i annual fall outing. Exceptionally co weather—one of the coldest Septemb days on record, said the weather m —kept wives close to the open fir places on the club site and they pr pared food over logs cut by hubbi and junior members of the club. F those who braved the unusual weath and didn't hurry back home, there w trap shooting, plug casting and a bas ball throw. Earl Moore, George Floy Howell Dietrich, John Munro, E. Ma well, Walt Chain and Joe Witte we winners at the traps, while Harry Pri ran away with the baseball throw; al Moxen, Chet Hudson, Rain Cahin, S Charles Betus, George Bellamy a Price all won prizes in ⅝-oz. accura plug casting.

Ellis Y. Brown, Jr. (left) of Downingtown and David A. Kay (right) of West Chester, member of the West Chester Fish and Game Association, as they assisted with stocking of trout.

Frank Williams of West Conshohocken, president of the Montgomery County Federation of Sportsmen's Clubs.

Montgomery County Federation of Sportsmen's Clubs

Early in September the Montgomery County Federation of Sportsmen's Clubs released 300 ringneck pheasants that were reared by them in cooperation with the agricultural education program of the Eastern State Penitentiary at Graterford. The pheasants were received as day-old chicks from the Pennsylvania Game Commission and 400 of them are being held over the winter for release in early spring.

At this writing the Montgomery sportsmen are preparing to aid their fish warden, Harry Z. Cole, in draining a propagating pond in order to remove thousands of warm water fingerlings and place them in the Perkiomen, At the same time, they are arranging to distribute approximately 1700 blight-proof chestnut trees that were raised at their nursery in cooperation with District Forester Wilford P. Moll and the Eastern Penitentiary.

Montgomery County Fish, Game and Forestry Association

The annual fall outing of the Montgomery County Fish, Game and Forestry Association for members and their families and friends was held at the Eastern Penitentiary grounds near Creamery, where events of the day included a dog show, trap shooting, moskeeto shoots, dead mark and quoit pitching.

Morwood Sportsmen's Club

Music, fun, games and refreshments were the order of the day at Gearhart's Grove when the Morwood Sportsmen's Club held its third annual picnic. Very shortly after the picnic, this club scheduled several additional events for members, including a "big pig shoot," the first prize being a 200-lb. porker, the second prize, a Woolrich hunting coat and the third prize a pair of Goodrich hunting boots. Additional prizes of hams and turkeys were also awarded.

New Hope Sportsmen's Club

Regular trap shoots were initiated by the New Hope Sportsmen's Club, a welcome addition to their full schedule of bird dog and beagle trials where the cream of the crop in dogdom are pitted against each other.

Octararo Sportsmen's Club

Stocking of fish, as well as real honest-to-goodness fishing, banding and releasing of pheasants, a big field day program, coon dog field trials and turkey shoots have kept members of the Octoraro Sportsmen's Club stepping during past months.

Perkiomen Valley Sportsmen's Association

The Perkiomen Valley Sportsmen's Association, too, had a day of "purple sun" on their annual fall picnic date, with unexpected cold weather that sent picnickers home to enjoy their lunches indoors instead of outside, as contemplated. There were trap shooting events, however, and a plug casting contest for those who remained at the ground. Francis and Ed Musselman were high scorers at the traps, while the plug event was won by Otto Bitterman, who placed first in class A. Frank Orr won class B and Walter Plfeger, class C.

Souderton Game, Fish and Forestry Association

The .30 calibre rifle team of the Souderton Game, Fish and Forestry Association "did itself proud" this summer while competing in Eastern Matches at Indiantown Gap; while at this writing trap shooters of this club were completing plans for a big "ham shoot" for Saturday, October 21st, at their own club grounds. During the summer a number of club members donated their time to clearing the club site, where progress was made toward an improved place for future enjoyment.

Herbert W. Vogel, of Philadelphia, helps to stock the Wissahickon.

Edward Palski, Jr., 14-year-old son of Special Fish Warden Edward Palski, of Scranton, holds up to 19½ inch, 3 pound largemouth bass he landed on a fly rod while fishing for sunfish.

Tedyuscung Sportsmen's Association

A club auction of anything that members wanted to get rid of provided not only fun at a fall meeting for the Tedyuscung Sportsmen's Association, but also some cash in the form of a "discount" to the club on the proceeds of the sale. This club hopes to hold a similar auction each year.

West Chester Fish and Game Association

As 1950 draws to a close, the West Chester Fish and Game Association finds that it has chalked up for itself one of the busiest years since it organized in 1937. Stocking of trout, rearing and stocking of ringneck pheasants and cottontail rabbits, a tip-top field day featuring Wilbur Cox and his feats of marksmanship with rifles, shotguns and pistols, a spirited membership contest that really brought in new members in one short month—to name the highlights of its accomplishments.

Over in Africa some of the native tribes have the custom of beating the ground with clubs and uttering spine-chilling cries. Anthropologists call this a form of primitive self-expression. Over here in America, we call it golf.

1951 RULES AND REGULATIONS

The rules and regulations governing fishing in Pennsylvania during the 1951 season remain the same as during the 1950 season. The Fish Commission directs the attention of all fishermen to the Act of the Pennsylvania Legislature (1949) which prohibits fishing of all kinds in any waters of the state from midnight, March 14th, to April 15th except in rivers, lakes and ponds not stocked with trout.

"Any person violating any of the rules and regulations shall upon conviction be sentenced to pay a fine of twenty dollars ($20.00) and in addition thereto may be fined ten dollars ($10.00) for each fish caught, taken, or had in possession contrary to the rules and regulations of the commission."

The daily creel as published in the Fishing Regulations or Summary establishes the number of fish which may be legally caught in any single day.

The possession limit at any time is fixed at one day's creel limit, that would mean six bass (which is the daily creel limit) would by the same token be the possession limit and would include the bass one may have caught earlier and have in refrigeration. If a fisherman caught three bass today and kept them in his refrigerator and then the next day caught six more, he will be in violation of the law by having three more bass than the legal possession limit allows him at any one time. If the fish were trout the number would be ten, and so on.

The possession limit, however, does not prevent the fisherman from having ten trout, six bass, etc., but does fix the limit at twenty-five (25) of the combined species at any one time. A pamphlet of the fish laws reflecting these regulations will accompany each license issued in 1951.

Large Audience Enjoys P.V.S.A. Annual Booster Night Program

A large audience enjoyed the seventeenth annual Booster night program of the Perkiomen Valley Sportsmen's Association on Friday evening, October 27, in the Ursinus College gym. The many ladies in attendance evidenced the keen interest of the fair sex in conservation and outdoor sports.

Kenneth B. Nace, president of the P.V.S.A., ably presided as master of ceremonies.

Harry Z. Cole, of Norristown, State Fish Warden of the area, represented the State Fish Commission. Warden Cole made an eloquent plea for fishermen to observe the rights of the property owners along the streams.

Mr. Cole said the spawning period of most species of fish was very late the past season due to the cool weather. He also said more bass were caught in his district during the first four days of the 1950 bass season than any similar time during his recollection of nearly 16 years as a fish warden. This was a good year for natural propogation of all species since there was no serious flood waters.

The government has issued a booklet of instructions on how to cross a goose and a swan and produce a swoose. We offer this information to anyone who has always wanted a swoose.

FISHING REGULATIONS FOR 1951

SPECIAL NOTICE: By special amendment of the Fish Laws passed by the 1949 Legislature—All fishing is prohibited in any waters from March 14 to April 15, 1951 except in rivers, lakes or ponds not stocked with trout.

SUMMARY NO. 1—Inland Waters Only

Species	*Season*	*Size*	*Creel Limit*
Brook, Brown & Rainbow Trout	April 15 to July 31. Season opens 5 A.M. April 15	Not less than 6 inches	10 (combined species)
Trout (lake or salmon)	July 1 to Sept. 29	No size	8
Bass, Small & Large Mouth Bass	July 1 to Nov. 30	Not less than 9 inches	6 (combined species)
Pike Perch (Walleyes)	July 1 to Nov. 30	Not less than 12 inches	6
Pickerel	July 1 to Nov. 30	Not less than 12 inches	6
Muskellunge	July 1 to Nov. 30	Not less than 24 inches	2
Northern Pike	July 1 to Nov. 30	Not less than 16 inches	4
Bass (white, crappie, strawberry, or calico)	Any time of year	No size	15 (combined species)
Rock Bass, otherwise known as red-eye, goggle-eye	Any time of year	No size	15
Yellow Perch	Any time of year	No size	15
Sunfish, Bluegills	Any time of year	No size	15 (combined species)
Catfish	Any time of year	No size	15
Suckers	Any time of year	No size	15
Chubs	Any time of year	No size	15
Fallfish	Any time of year	No size	15
Carp	Any time of year	No size	15
Eels	Any time of year	No size	Unlimited
Frogs	July 2 to Oct. 31 (Sunday excepted)	No size	15—Not more than 50 in any one season
Tadpoles	July 2 to Oct. 31 (Sunday excepted)	No size	15
Terrapin (Red Leg)	Nov. 2 to Mar. 14 (Sunday excepted)	No size	5—Not more than 50 in any one season. All other Turtles unprotected.
Bait-fish or fish-bait	Any time of year	No size	Bait-fish—35 Fish-bait—35 Combined—50

Note: In above mentioned seasons, both dates are inclusive.

SUMMARY NO. 2—Delaware River, Above and Below Trenton Falls

Species	*Season*	*Size*	*Creel Limit*
Trout (all species)	April 15 to July 31	Not less than 6 inches	20 (combined species)
Bass (large & small mouth)	June 15 to Dec. 1	Not less than 9 inches	10 (combined species)
Bass (strawberry, calico, rock or red-eye or goggle-eye, white, crappie)	June 15 to Dec. 1	Not less than 6 inches	Rock Bass—20 Calico and crappie (combined species) —20
Pike Perch	June 15 to Dec. 1	Not less than 12 inches	10—(Walleyes)
Pike	June 15 to Dec. 1	Not less than 12 inches	10
Pickerel	June 15 to Dec. 1	Not less than 12 inches	10

SUMMARY NO. 3—Delaware River between Pennsylvania and New York

Species	*Season*	*Size*	*Creel Limit*
Bass (large and small mouth)	July 1 to Nov. 30	Not less than 10 inches	6 (combined species)
Rock Bass	July 1 to Nov. 30	Not less than 6 inches	Unlimited
Trout (all species)	April 15 to Aug. 31	Not less than 7 inches	10 (combined species
Pike Perch	May 10 to Mar. 1, next ensuing	Not less than 12 inches	15
Pickerel	May 1 in any year to Mar. 1 of ensuing year	Not less than 12 inches	15

SUMMARY NO. 4—Lake Erie

Species	*Season*	*Size*	*Creel Limit*
Bass (large & small mouth)	June 15 to Nov. 30	9 inches	6 (combined species)
Rock Bass	Any time of year	No size	15
Bass (crappie, strawberry, or calico)	Any time of year	No size	25 (combined species)
Northern Pike (any species)	June 15 to Nov. 30	12 inches	8 (combined species)
Muskellunge	June 15 to Nov. 30	Not less than 24 inches	2
Sunfish-Bluegills (Bream)	Any time of year	No size	15 (combined species)
Smelt	March 15 to May 31	No size	Unlimited

(All streams emptying into Lake Erie within confines of Penna. from mouth in a southerly direction to State Hwy. Rt. No. 5).

SUMMARY NO. 5—Pymatuning Lake

Location: Between States of Pennsylvania and Ohio—Crawford County

Species	*Season*	*Size*	*Creel Limit*
Muskellunge	July 1 to Nov. 30	Not less than 30 inches	2
Pickerel (Yellow Pike)	July 1 to Nov. 30	Not less than 13 inches	6
Black Bass	July 1 to Nov. 30	Not less than 10 inches	6
Pike Perch	July 1 to Nov. 30	Not less than 13 inches	6
Sauger	No season	Not less than 11 inches	6
Bluegill or Sunfish	No season	No size	15 (combined species)
Rock Bass	No season	No size	15
Yellow Perch	No season	No size	15
White Bass	No season	No size	15
Crappie	No season	No size	15
Catfish	No season	No size	15
Suckers	No season	No size	15
Carp	No season	No size	15
Minnows (2 rods and lines or 2 lines only)	No season	No size	35
Frogs (unlawful to take frogs by use of light)	July 2 to Oct. 31 (Sunday excepted)	No size	25 in one day 50 in one season
Tadpoles	July 2 to Oct. 31 (Sunday excepted)	No size	25 in one day or in possession at one time

THE OLD-TIMER GRIPES

By Albert G. Shimmel.

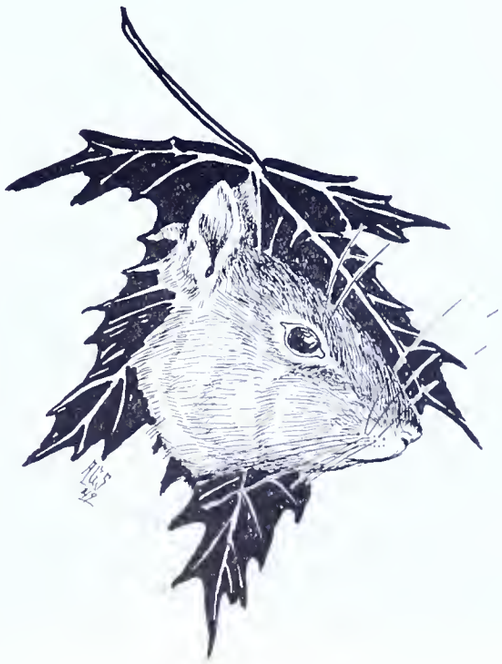
THE Old Timer watched the play of silver sunlight on the rapids of Big Creek as it came to us through the twisted arms of the hardwoods on the slope below. A sugar maple leaf in the glory of its autumn gold dropped softly to rest among the others that formed the bright carpet. Slowly his gaze roved over the slopes marking the dark majesty of the hemlock spires standing in sharp contrast against the gold, crimson and brown of the other trees. His face took on a look of almost youthful contentment as the light of reminiscence came into his eyes. His hand stroked the head of Mac, the fox terrier as he lay between us, guarding the four plump grey squirrels that were the fruits of the morning's chase.

Removing the ancient pipe for a moment he said, "This makes a fellow feel almost like he was in church and yet when I look down there at Big Creek I feel so mad I could swear." With the stem of his pipe he pointed to the top of a basswood snag just visible through the interlacing of branches. "Forty years ago I hunted this ridge, just like this morning, then went down to the bend right where the snag is now. I caught some minnies on crumbs left from my sandwiches, cut me a limber birch pole and caught two big bass and a pickerel to go with my squirrels and was home in time to have mom fix 'em for supper. She was some creek in those days but now, I kinder hate to look at her runnin' yellow with the water from the mines and strippens above. It's not the old creek at all, no good for nothing except maybe to look at from a distance like we're doing now. Aint much comfort to know that she once was a stream that had lots of fish and was pretty as a picture in spots."

The Old Timer turned his attention once more to his pipe. Bumping the dead ashes on a cleared spot by the sugar maple roots, refilling it carefully he applied a match. Holding the match after it was out he broke it between his thumb and forefinger then thrust the broken ends deep into the damp earth. The fragrant blue smoke mingled with the smells of the Autumn as it curled upward in blue spirals. I tried to picture Big Creek as it was in the early days. His jaw clenched a moment as if in anger as he continued.

"Up there's Notch Run you know, only two miles long but pretty as any picture with her rocky holes, hemlock and rhododendron. Native brooks with dark backs, red bellies and specked with orange and yellow. Spunky little fighters too, that was 'till John sold the coal under the hill field. That company moved in from another state with shovels, dozers and and a drag line. They ripped up the hill, turned water down the Notch Run because they claimed there was nothing in it and Big Creek was polluted. They finished all the coal but one little block, claimed they were coming back to get it and then moved out without filling the cut back like the law says they must. Even if they'd filled back the spoil banks the run is ruined and there'd be no fish for years to come. John figgered he'd get something out of the coal while he could, now that he's got what he can he'll let the hill go back to the county on taxes so that its just no good to anybody. It fair makes me boil, I get so disgusted.

"Folks in general is short sighted when some buddy comes along and wags a dollar under their nose. Take Young John, got his daddie's farm up at the head of Laurel Run. He sold the clay up on the water shed of his farm. Wouldn't let 'em strip his wood lot but they cut all around it. He forgot about the spring that furnished water for the house and stock. Almost as soon as they cut into the hill his spring went dry and all winter he had to haul water for himself and the barn and dig a new well to boot. Now he has to run a pump to get his water where before it run into both house and barn all by itself. He learned his lesson but it was too late, like the story The boys tell about grand pappy George.



"The swimming hole in the meadow below the barn had a high bank from which the boys dived into the deepest water. They cut a narrow ledge about three feet below ground level in the clay soil which they used on occasion for a diving platform. When grandpappy turned the meadow into a sheep pasture the boys discovered another form of amusement. The old ram that led the flock was decidedly against the invasion of what he considered his private property by the noisy swimmers. When he chased them they ran for the bank and dived into the water. Finally they climbed the ledge and taunted the ram until he charged. At the last moment they would duck below the ground level and the ram, too close to the edge to stop landed in the pool with a splash. Gaining the shallows below he rejoined the flock, little the worse for his dip. It became the daily sport of the boys to repeat the trick and the ram never seemed to learn that he was the butt of the joke."

"One day grandpappy saw the performance from the haymow window. Enjoying the fun he decided to try it himself. Watching until the swimming hole was deserted he made his way to the ledge and worked on the ram until he charged. Grandpappy ducked but a grass blade on the bank pricked his nose and forced him to raise his head. The two heads met perfectly and as a result both man and beast splashed into the pool. Some how grandpappy got out under his own power and finished the incident by using some peach sprouts on the backsides of his own boys who had started the whole affair."

The old man scowled moodily at the bowl of his pipe, explored the dead ashes with a horny forefinger then knocked it carefully on the heel of his boot. "Maybe I'm taking hold of the rough end of this stick," he resumed at last, "but I read in the paper how in this state we got something over a hundred thousand miles of streams big enough to have names and less than forty thousand of them are clean enough to have fish. The same fellow writes how the tourists come into our state and spend money enough to make their trade among the biggest businesses we have. Folks won't come into these hills to look at spoil banks from strippings and they can't fish in waters that is spoiled by mine water. Ain't it time we got awake and did something?"

(*Turn to page 21*)

Don't Sneer at Pickerel

By Dick Fortney

PUT him beside a trout or a bass, and the common pickerel takes no prize for his beauty. So he is sneered at by a lot of fishermen, or just plain ignored.

But if you're looking for a fight from the fish you hook, and if you'd like to step into a figurative prize ring with an opponent who always fights with no holds barred, the pickerel is your fish.

And if a brush with a common pickerel doesn't satisfy you, make an effort some day to get to water where Great Northern pike abound—or, better yet, match wits with a muskellunge.

Pickerel, admittedly, have their faults. They don't belong in trout streams and in small bass lakes, where they could feast on the young of these species. But there are pickerel in lakes and ponds and in large rivers, and they are worth going after.

In defense of the pickerel, first of all, let us get the facts straight—

The pickerel will smash into a lure or bait when trout and bass ignore all the tempting offerings of the fishermen. The pickerel also has a streamlined beauty of his own, with his greenish bronze body, his pattern of chainlike markings, and his white belly. And the meat of a pickerel, although bony and somewhat coarse, is good to eat.

It's the fighting heart of the pickerel, however, that is his biggest asset. He'll tackle anything that moves in the water, and that includes small ducks, squirrels, other fish half his own size or bigger, minnows, frogs, and even larger insects. He simply has no fear.

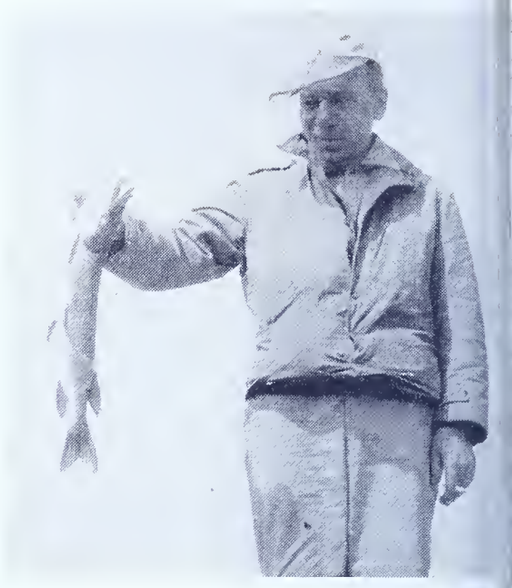
What is more, the pickerel will strike any time—even in those scorching hot hours in the middle of the day. Sometimes he will take a lure or bait if he is hungry, and he usually has a good appetite. But if he has just polished off a big meal, he will strike anyway because he has a mean disposition and loves any kind of a scrap.

How else can anybody explain the fact that a pickerel often will strike two or three times at a lure before he is hooked?

I recall one afternoon fishing in a weedy river bay with a spoon lure. There was a hard strike shortly after the retrieve was begun. I kept on reeling, and the pickerel struck the second time—and then a third. By this time the lure was close to the boat, and the big fish was in plain sight.

My companion, sitting in the stern of the boat and using a canoe paddle to move the craft quietly along the bed of weeds, wriggled the paddle slightly in the water.

The pike turned in a flash, struck the paddle so viciously that the rap



This husky pike struck a fly and spinner ar put up a swell fight. The fisherman was usi a bass fly rod when he caught the pike.

of its teeth on the wood could plainl be heard and then—topping off th whole performance—socked the spoo again and was hooked.

Who ever heard of a trout or bas that belligerent?

One reason many anglers look wit disdain on the pickerel is that the have the mistaken idea that fish c this species can be caught only o casting rod lures or when fishing wit minnows.

That isn't necessarily true.

Streamer flies of various color com binations, fished with a fly rod, tak pickerel. As for a few color patter suggestions: Red and white, yello and red, or black and white. Th streamer fly used for pickerel fishin is best when it has a silver or gol tinsel body and hackle that is loos and wavy, to produce motion on th retrieve.

The streamer should be worked i the water as erratically as possible, an always with swift motion. The pickere is streamlined for speed; you can't fis a lure too fast—and besides the mor life a lure has the more interested pickerel will take in it.

Surface plugs also are good pickere lures, although never tried by man anglers. I've found a black jitterbug retrieved swiftly and with stiff jerk of the rod from time to time, bring strikes. I well remember one pickere that took a surface plug with muc ferocity that when I got the fish t the landing net it was curled up lik a big ring of bologna, with the hea hooks of the plug in its jaw and th tail hooks of the plug firmly set i the tail of the fish.

Half-ounce, deep-running bass plugs especially in a color combination o red and white, also are good pickere lures. I have caught fish with these plugs that were so deeply hooked

This nine-pound Great Northern pike—the tough cousin of the pickerel—was taken on a spoon cast to a river bay weed bed.

ıat the plug had to be pulled out ırough the gills of the fish and un-ɔoked from the leader in order to ɛturn the pickerel to the water un-ırmed.

All kinds of spoons and large spin-ɛrs are good pickerel lures. In some ɪpes of water it is best to use them ı casting with a steel or glass rod. ɔmetimes pickerel will take such ırres when trolled slowly along the lge of weed beds in streams, ponds, · lakes.

Bait fishermen find the pickerel a ɛady customer for minnows or frogs, ɔvided these baits are lively and esh. Worms are not especially good ckerel bait because they lack life in e water.

Great Northern pike were mentioned the beginning of this article. They ɛ not plentiful fish in Pennsylvania, it will suffice to point out that they ɛ very much like their smaller ıusins except that they grow bigger size, they have meaner dispositions, ıd they will take a wider variety of ɪres. Fishing for them with a fly rod, ɪcidentally, is rather risky business. ɪe angler never knows when he may ɛ into one that will weigh 20 or 25 ɪunds.

The muskie, of course, is the big-ɛst and the meanest of all the mem-ɪrs of the pickerel family, and he is ɛn more scarce than the Great ɔrthern in Pennsylvania waters.

But the Great Northern and the ıuskie range all over Canada and are ɪntiful in Wisconsin and some other states in this country—and they are well worth your attention some vacation season.

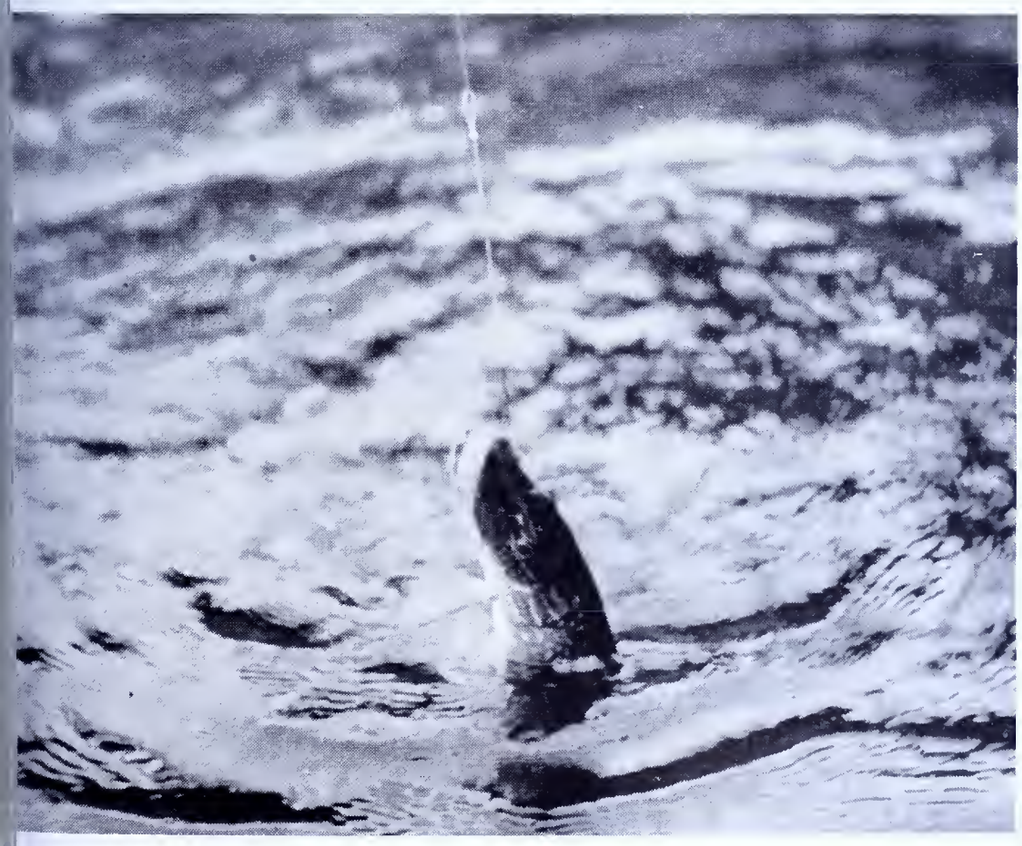
Patches of aquatic vegetation like this are favorite spots of pickerel. Almost any kind of lure cast to such a location will bring a smashing strike.

Just in event you're interested in a word about my own favorite pickerel lure, I'll list it as a fly and spinner. I make the fly myself. It is on a rather large hook, and it has a thick body of dark red wool, with gold tinsel ribbing; a tail made of bright red feather, and a wing on its back made from a tuft of hair from the tail of a black squirrel. The spinner is about the size of the nail of your middle finger. (A spinner with two smaller blades, about the size of the nail of the little finger, also is good).

I've had pickerel take this spinner and fly combination under any and all conditions—along brushy shore lines, in deep pockets of stream pools, and often right out in the middle of a pool where no one would expect any game fish to be waiting for a meal.

I even used it one afternoon on a big Canadian lake when the fishing was slow. Some split shot were attached to the nylon leader on the end of the casting line, to make the lure heavy enough to handle properly with a casting rod—and on about the third cast the spinner took a pickerel (a real chain pickerel, not a Great Northern) big enough to provide a lunch for three men.

Of course, the pickerel had to cooperate and to be ready for a fish. But pickerel seem always to be in that frame of mind.



A hooked pickerel fights to the last ounce of strength in its body. Even when it is ready for the landing net, as this fish is, a pickerel is capable of a final burst of battle.

"A really large fortune," said a multi-millionaire, "can only be attained by great economy. I would never have been so rich if I had not throughout my life kept on saving million after million."

A little aspirin now and then is needed by the best of men.

Three Men in a Fishing Boat

By G. Earle Thompson

LEE, the owner and chief cook of the thirty foot cabin cruiser Moby, leaned over into the grub box and pulled out several tempting looking parcels from the iced receptacle. Unwrapping two of these he gave a low whistle. "Holy smoke, men," he exclaimed, "Looks like we have plenty of steak in spite of the high cost of meat." Whereupon he held up to our astonished gaze two whole three pound choice, juicy steaks, thick and ready for the pan.

We laughed and knew at once that the folks at home had gotten their signals mixed and both parties had sent down a steak along with other fine foods for our week and fishing excursion on the upper bay of the Chesapeake in Maryland. We were up to both of them and more too for the day had been full of activity and a strong south wind had made the boating brisk. The steaks were placed on the stove by the able hands of the skipper and we kept on fishing over the side to see what might be forthcoming. Baiting with live minnows, we had decided to find out what luck would be ours high up here on the upper stretches of the great bay. We knew that the real good fishing was to be had away down the Chesapeake, but we did not have the time to travel so far and besides, here on the Bohemia and Elk Rivers, which later on meet the great Northeast River at Turkey Point to form the greater bay, we had more privacy, more sheltered waters and coves and the swimming was the best anywhere, with unobstructed sandy beaches, absolutely unpopulated, an ideal place for a vacation cruise and a good rest from the daily grind.

In Big Cove we had caught some white and yellow perch early that same morning by fishing from the dinghy, using the same live minnow bait and casting far inshore among the reeds and grasses. Letting the little rowboat drift with the incoming tide, we could move along the shore and so had very good luck. All around us we could see the fish jumping and playing on the surface and some of them seemed to have good size to them. In two hours we had just two dozen and turned back to row to the anchored cruiser, content that we had learned how to do the trick this far up the Bohemia. We had plenty of fresh fish for lunch, after sending the boy, Don, over along the nearby shore to clean them on the rocks.

A good swim then came in mighty fine and we upped the anchor and chugged on down the big Elk for couple of hours in the face of a plea ant south wind that sent the spra time and again up over the bow sprinkle those on the forward dec With Skipper Lee at the wheel had no apprehension when two lar freighters passed us in the chann one up and one down, on either si of us. In fact we relished the d and roll of the ship as we churn into the two wakes of the ocean goi steamers. These use the newly dee ened and improved Delaware a Chesapeake Canal to arrive eventual at their piers at the Port of Phil delphia.

Around Turkey Point and in cle sight of the old lighthouse there, tried again to lure the finny denize of the bay, but they paid us no atte tion. We found fairly deep water the charts and yet nothing happen so we gave up and cruised in a lar circle around the bay, stopping eve half hour or so to try some like looking spot for fish. It was now g ting on to supper time and we we more than willing to seek some sh tered cove on up the Elk to lay to a enjoy the eats. We headed on u passing many fine sail and power boa and another large freighter. Just o posite the mouth of the Bohemia Riv at Rogues Cove, where all had sa there was no fishing, we turned away from the channel and out sight of people and boats and anchor in the cove called Rogues on t charts. We laughed at the name a Don stated that possibly they knew were going to put in there. Our thr rods were still rigged up and plen of live bait was still in the wat bucket in the stern.

Lee, the skipper-cook was intent his preparations for the meal. T quiet of early evening was fast b ginning to steal over the waters, the wind diminished and the sun hu lower over the wooded hills. Bir twittered in the brush along the sho line or scooted low over the bay search of a supper. From far sounded the pleasing tinkle of co bells as the farming communities b gan to settle themselves down for t evening time. Overhead the sky w clear with the exception of some lar billowy thick white cumulus whi floated at peace over a peaceful wor

We had left our three lines, baite over the side and had dived into t welcome food at the skipper's call "Come and get it or we'll throw away!" Bread and jelly, tomato cool and with plenty of salt, dese and last but not least, the two lar tender, dripping steaks. We ate a ate and then full and repleat we s and talked it all over. The wav rippled gently against the bow of t

A beautiful view of the Susquehanna River east of York, looking over Long Level towards Turkey Hill. This is Lake Clarke which is the water back of the Safe Harbor dam.

ttle Moby and we took out some nokes from the cabin and lit up.

Just about the time we were apply-g matches to our cigars and ciga-ttes there was a sharp buzz and ne of the rods bounded and vibrated gainst the gunwales of the boat. Lee as the first to realize what had hap-ened and reached a long arm across e seat and grabbed the rod.

"Oh boy," he exclaimed, "that baby re is going to town. On my rod too! w do you like that."

We watched in breathless expec-ncy while the skipper slowly and refully played his catch. In he came, oser and closer to the boat and by s antics we knew for sure he was large one. We had forgotten to add landing net to our equipment so the b had to be done cautiously and gerly as the master fisherman ought the catch into the side of the aft and so up into the cockpit. It as a beauty sure enough, and a iper. The bass was about eighteen ches in length but we did not have eighing scales. He was within the nit prescribed by law however hich is fifteen ponds and must be er one foot in length. We were ore than excited and cleaned the fh for the next morning's breakfast, nice addition to our depleted larder.

Next we looked around at the waters the bay. They were serene in this ve and the tide was running out, a or time for catching any fish, but r gaze was rewarded by the sight of veral large fish breaking the surface t far away from our boat. We ighed anchor and cruised out near e spot where the fish had showed emselves and tried hard for more ss, but with no success.

As the darkness began to spread er the upper bay and the river, we ned our course back up the Bo-mia and sought anchorage for the ght in Big Cove from whence we d begun our trip that same morning. r running lights were now on and we turned into the large, smooth e we encountered several other ge cruisers and so avoided them by ving farther inshore and dropped chor not far off a high point, with ep clay banks topped with heavy es and bushes and with a fine grav-y beach at the base, all ready for surf bathing early the next morn-.

After a full night's sound sleep, we se shortly after dawn and had our ilirating swim in the brackish water the cove. While drying in the sun l the wind on deck, Skipper Lee ought the striped bass or rock fish a nice brown and we ate him with sh (gustatory, not material) while captor went into detail about the days when the catching of such a fine specimen at this place would have been considered only a daily routine.

For all of that we were quite pleased with our little week end on the water and had proved to ourselves at least that fish are where you catch them.

Governor Presents Award to Writer

Left to right: Bill Wolf, of Philadelphia, Governor James H. Duff and Milo F. Draemel, Secretary of the State Department of Forests and Waters.

On October 5, 1950 Governor James H. Duff presented to Bill Wolf, prominent Philadelphia writer, a citation from the National Association of Conservation Education and Publicity for his seres of articles dealing with stream pollution in Pennsylvania and America.

The award was presented during a luncheon at the Wyomissing Club in Reading which preceded an inspection of the Schuylkill River Desilting Project and subsequent ceremonies during which the Governor officially dedicated the New Kernsville Dam above Hamburg in Berks County.

The dam is one of a series of desilting basins and dams on the Schuylkill which have been built since 1947 under the Supervision of the Department of Forests and Waters.

Announcement of the award was made September 26 at the annual meeting of the Association at Mt. Hood, Oregon, according to officials in the Department.

Mr. Wolf's series of articles, "Running Sores on Our Land," and "They're Cleaning Up Pennsylvania's Foulest River" were published by magazines having a national and international circulation.

No Place For Chapped Lips

The modern nylon plant may be taking away some of his business, but the little silkworm has a laugh or two coming. It is his thread-making principle that the nylon manufacturers have copied almost exactly. In both cases, a liquid is forced through a tiny hole, solidifying into thread upon contact with the air. While machinery achieves this with a series of small holes, The World Book Encyclopedia states that the silkwork ejects his fluid through a minute opening in his upper lip.

All of us are working for the government. The trick is to get paid for it.

Pond Produces 125,000 Fingerling

Under the supervision of Fish Warden Harry Z. Cole of Norristown, approximately 125,000 catfish, sunfish and golden shiner fingerlings were removed from the Irvin Markley Pond, Jeffersonville, recently by members of organizations affiliated with the Montgomery County Federation of Sportsmen's Clubs.

Sportsmen with buckets and trucks worked most of the day to transfer the tiny fish to various streams where public fishing is permitted throughout the county.

It is ignorance that makes you fear the great man. He doesn't overawe those who knew him as a warty kid nicknamed Stinky.

An aeronautical engineer says the helicopter is foolproof. He probably knows a lot about helicopters, but he doesn't know a thing about fools.

You are getting old when you are more interested in the food than the waitress.

The Lowdown on Fishing Tackle

By William Boyd

EVEN among anglers who have been fishing for a number of years there is a surprising lack of knowledge concerning reels and lines. Most of them know about all there is to know about the particular kind of tackle they use in their fishing, but beyond that their familiarity with it is sketchy indeed.

Ask the chap who does his angling in fresh water to tell you the basic difference between a bait and a fly casting reel and he'll probably answer instantly that the bait-casting reel unwinds with the cast, while the fly reel is merely a carrier, the line being stripped off by hand.

If you ask him about the most popular type of bait-casting reel and mention the free-running type, the combination all-purpose bait and fly casting model, and the level-winding anti-backlash design, he may or may not know that the level-wind, anti-backlash type is the most desirable.

Occasionally a sportsman from inland will be planning his first trip to the seashore with sea fishing in mind. He may want to know if the fresh water bait-casting reel can be used for salt water fishing.

If you know your reels and your sea fishing, you can tell him that fresh water bait-casting reels may be used for salt water fishing, although they aren't as satisfactory as salt water reels, if they are thoroughly rinsed in fresh water after use and then wiped with an oiled cloth. This is to prevent corrosion, the bane of salt water fishing.

A free-running bait-casting reel is regarded by some as a reel geared to permit rapid playing out of the bait in trolling. Others think it is a model geared to facilitate rapid retrieve. As a matter of fact a free-running bait-casting reel is one which contains neither level-wind not anti-backlash features.

A surprising number of anglers can't tell you how the spinning reel differs from the conventional bait-casting model. There are those who will tell you the spinning reel contains a patented device which literally spins the bait in the water, enhancing its attractiveness to fish.

The spinning reel, to your surprise, may also be described as one which gets its name from the casting action, which involves twirling the rod in a circular motion. However, the truth is that the spinning reel differs from bait-casting models in that is does not move when the cast is made, the line literally spinning off the spool.

What is the arbor of a bait-casting reel? This question may bring several answers, but the correct one is that it is a built-in filler of cork or balsa wood which permits less line to be used, lessening weight.

There is some confusion, too, about an automatic fly-casting reel. There are those who will describe it as a reel with a spring mechanism for easy retrieve of line and bait, or as one which has a jerking wind-and-unwind apparatus to keep the fly in motion. As a matter of fact it is one with a spring mechanism which permits retrieve of the line without hand winding.

Some anglers are of the opinion that the technique of spin casting is an American post-war development. Others believe that spinning was first practised by the Indians. However, credit for the technique of spinning must be given to Europe, where it was developed.

On one occasion the question: "Why do bait-casting reels ordinarily have double handles?" was asked. One chap replied: "In case one breaks while a fish is being brought in." Another said: "So that greater leverage may be applied through grasping both handles." What they should have said was that bait-casting reels ordinarily have double handles to balance distribution of weight.

There are any number of anglers who can't understand why a bait-casting reel shouldn't be used for fly casting. Again, the answer may come back that the reel unwinds too easily and will snarl the line. But a bait-casting reel shouldn't be used for fly casting because the small arbor or spool w tend to "set" the coils in the fly li and make smooth casting difficult.

"I wonder how this durn thing works."

"What general type reel should recommended for fly fishing?" One the surprising answers to this one w "one which does not have a click, this retards line movement." And a other chap said: "One with a hea drag to permit a steadier play of fis

But the general type reel best suit to fly fishing is the single action ty with plenty of line-carrying capaci

The history of the reel for fishi goes back a considerable time. La in the Fifteenth Century there was use in Europe by fishermen a cru brass single-action, skeleton-type re which retrieved only.

The device from which the reels today were developed originated the beginning of the Eighteenth Ce tury in Europe. It was the Basqu who developed a device resembling canary cage with a handle.

The bird cage-like device of t Basques made it necessary for the us to hold the "reel" in his left ha while his right hand was occupied wi coordinating the rod with the left.

After making his cast, the angl took the line near his rod butt with l right hand and, still holding the r and playing the fish, made rotati motions with the bird cage reel wh guiding the line with his already bu right hand.

About ten years after the Revol tionary War, crude brass single-acti reels and "multiplying winches" we developed and used both in Ameri and Europe.

About 65 years ago a Scotsman i corporated the principle of the fix spool with that of the revolving spo It looked like an ordinary bait-casti reel of that time, but it had a ri guide in front of the spool.

When he made his cast, the Sco man grasped the spool and flipped so that the end of the spool faced t direction of the ring. When retrievi he pivoted the spool back to the ort dox reeling position.

About 20 years after this anoth Scotch angler built a reel with a sp that remained stationary on the c and retrieve. A few years later Englishman built the first roller manual pickup. The spool had shuttle motion, being merely a narr drum on which the line was wou between plates.

Later, European fishing tackle ma ers began building fixed-spool re with multiplying gears with the ch acteristic shuttling spool to spread t line evenly when rotated by the pick finger.

Now some paragraphs on fishi lines. As is true of reels, too ma anglers do not know as much as p

Pennsylvania's clean waters afford many kinds of recreation. This excellent photo by Edward Palski shows speed boat racing on Lake Wallenpaupack, our state's largest body of water.

ips they should about lines. How-
er, most of them do know that the
ound test of a line is its breaking
oint under a certain kind of tention.

Perhaps there aren't many who
now that the pound test is determined
y a machine which exerts equal,
easured tension at both ends of a
ction of line.

Because they have occasion to pur-
hase fishing lines as old ones deteri-
rate, fishermen should be informed
hat fly line sizes are designated by the
tters H—smallest—G, F, E, D, C, B,
nd A—largest.

A fly line differs from other fishing
nes in that it is treated with oil, en-
nel, or lacquer to give it stiffness and
eight.

Metal lines are desirable for deep
ater fishing, such as for lake trout,
ecause they sink under their own
eight, permitting more effective trol-
ng at depths of 100 feet or greater.

Why nylon, commonly used in mak-
ng bait-casting lines, is frequently
arked "waterproofed" when the ma-
erial itself is waterproof puzzles some
nglers. They do not know it is often
eated with water-proofing material
or purposes of lubrication, so it will
ip through the guides on a rod with-
ut friction.

Most fishermen who use them know
hat leaders are commonly used in
shing to make changing of lures
asier and to prevent the large game
sh from snapping the line above the
ait.

A spinning line differs from other
nes in that it has no core, the idea
eing to achieve the smallest possible
iameter. A core is simply several
hreads wrapped tightly together to
reserve the roundness of a line.

In other types of casting the weight of the bait carries the line out, but in fly fishing the line must be heavy enough to transport the fly, which in itself is too light to be cast.

The word "tapered" used in connection with a fly line means the line is thinner at one end or both ends—single or double taper—and gradually becomes thicker. In double taper, the line is thickest in the middle section. Tapering facilitates longer casts.

Those about to take up fishing or in need of new fishing lines will do well to remember that the most frequently used fresh water bait-casting line is silk or nylon of either 15 or 18-pound test.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233).

Of PENNSYLVANIA ANGLER, published monthly at Harrisburg, Pa., for October, 1950.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Pennsylvania Fish Commission, Harrisburg, Pa.; Editor, J. Allen Barrett, Harrisburg, Pa.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given). Commonwealth of Pennsylvania, Fish Commission, South Office Building, Harrisburg, Pa.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

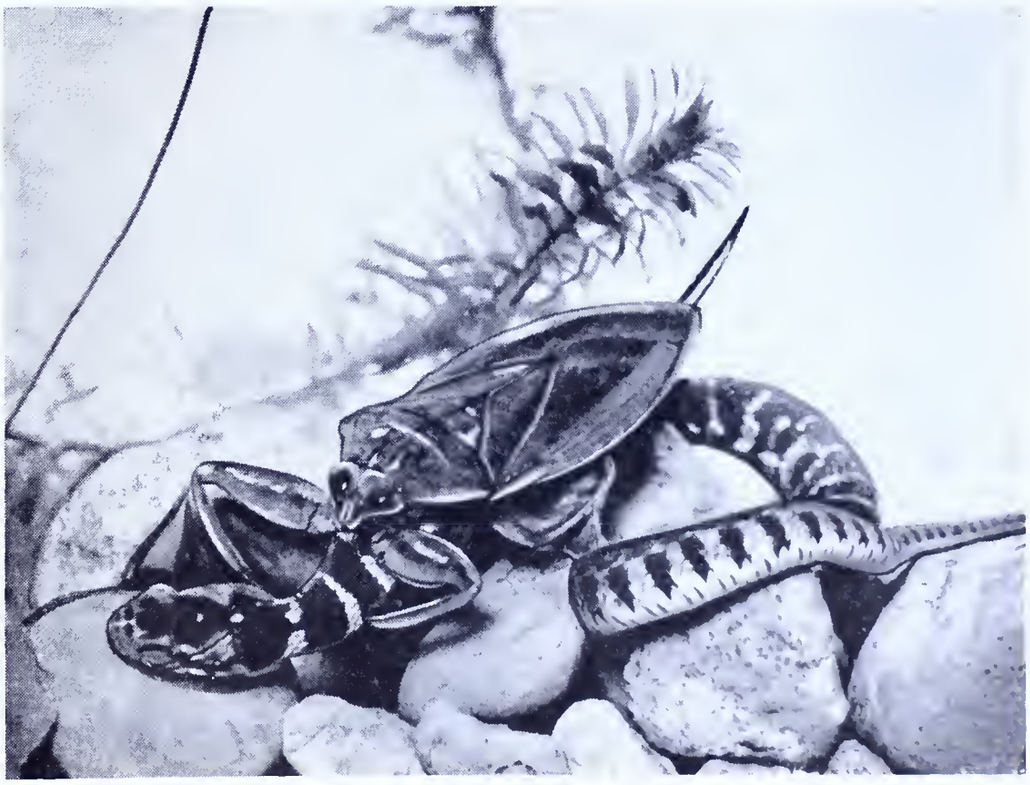
5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only).

J. ALLEN BARRETT

Sworn to and subscribed before me this 2nd day of October, 1950.

(SEAL) MARY J. MUSSINA
Notary Public.

(My commission expires March 8, 1951).



A three-inch water bug clamping a fatal grip on an eight-inch snake. The bug came down on top of the snake, gripped the reptile with its claws, and killed it with repeated injections of poison.

October 1950 Panel Meeting of the Pennsylvania Federation Sportsmen's Clubs

THE annual panel convention of the Pennsylvania Federation of Sportsmen's Clubs was called to order by president Dale Furst, Jr., in the old House Caucus Room on the third floor of the State Capitol Building in Harrisburg. Attending this annual conclave were the following officers and division chairman: S. Dale Furst, Jr., President; R. S. Cooper, Past President; J. H. Barkley, 1st Vice-President; Ray Armstrong, 2nd Vice-President; Dr. C. A. Mortimer, Secretary-Treasurer; H. M. B. Weicksel, Central Division; C. LeRoy Firestone, Southern Division: Ralph McGuigan, Southern Division; H. Arthur Fox, Southern Division; Steve Emanuel, Northeast Division; Pete Murray, Northeast Division; Theodore Koehler, Northeast Division; Robert C. Yake, Southeast Division; Mrs. Ellen A. Dietrich, Southeast Division; Earl B. Walker, Northeast Division; E. G. MacMurdy, Northwest Division; Seth L. Myers, Northwest Division; Glenn Dodds, Southwest Division; Carl A. White, Southwest Division; E. F. Brasseur, Northcentral Division; H. E. DuBroux, Northcentral Division; M. C. Merritts, Southcentral Division; Charles W. Stoddard, Jr., Southcentral Division.

Of extreme interest to the fishermen of Pennsylvania are the various resolutions adopted by the convention.

GENERAL

3. THEREFORE, we the members of the Lackawanna County Federation, resolve that the Fish Commission and the Department of Forest and Waters purchase the land between the road and Lake Wallenpaupack to provide areas for the public to have ingress and egress to Lake Wallenpaupack, so that the public would not be depending on private ownership to provide the public with a way to get on the lake.

5. RESOLVED, That a Fish or Game Commissioner shall not serve more than one term on a Board of Commissioners, unless elected president of his respective Commission for his second term, but in no case shall he serve more than two terms on either Board of Commissioners. (Approved by vote of 23-17).

7. RESOLVED, That the Pennsylvania Federation of Sportsmen's Clubs opposed construction of a high dam on French Creek and favor a series of small dams.

PURE STREAMS

13. WHEREAS, the waters of Clearfield creek from Coalport, Clearfield County, Penna. to Cresson, Cambria County, Penna., a distance of some twenty miles could be rehabilitated at a minimum of expense and interference to public and private enterprise; NOW THEREFORE BE IT RESOLVED, That we ask the Pennsylvania Federation of Sportsmen's Clubs to adopt such resolutions and forward such to the Department of Forests and Waters, the Sanitary Water Board, the Pennsylvania Fish Commission, and especially the Attorney General.

18. RESOLVED, That the amount of fine for the pollution of a stream be doubled.

FISH

36. RESOLVED, That the Pennsylvania Fish Commission stop stocking of carp in the Susquehanna River and lighten the laws pertaining to the taking of carp.

37. RESOLVED, That the Pennsylvania Fish Commission raise the Fish Warden's Salary to the same status as the Game Protector.

38. RESOLVED, That the Pennsylvania Fish Commission do change the amendment which prohibits fishing any creek or stream whether stock with trout or not from March 14th April 15th, to read: "that no fishing allowed in any portion of the cree stream, or river stocked with trout (Resolution No. 44 presented by N reaffirmed).

Margaret Cole Keppel, of Youngstown, Ohio, smilingly displays a prize-winning walleye which she caught from Pymatuning Lake, August 13. The giant fish weighed 9 pounds and was 32 inches in length.

39. RESOLVED, That trout fishing restocked trout streams in mid-seas be restricted to the opening hours 5 a. m. instead of 12 midnight.

40. WHEREAS, From interpretatic of the special amendment to the fis laws—prohibiting all fishing in ar waters from March 14th to April 15t except in rivers, lakes or ponds, n stocked with trout—it would appe that the Pennsylvania Fish Commi sion is becoming alarmed at the mar ner in which suckers are disappearin from our streams; THEREFORE B IT RESOLVED, That the creel limit o suckers be reduced from 15 to ten (10 daily.

41. Any resident of Pennsylvania hol ing a resident citizens fishing licens be permitted to take, have, and kee in captivity, thirty-five (35) minnow for live bait fishing forty-eight (48 hours prior to the opening hour c trout season, means of taking sai minnows to comply with State minno net rules.

* * *

President Furst reported that he ha been asked by the Legislative Commit tee to sound out the sentiment of thi organization in the event there is a bil presented in the Legislature to in crease the fishing license fifty cents The sentiment was favorable.

RESOLUTIONS FROM THE FLOOR

2. BE IT RESOLVED: That the North Division of the State Federation o Sportsmen's Clubs urgently reques that the Fish Commission formulate an immediate program to utilize the funds accumulated and to be accumulated from the increase in the fishing license fee to obtain stream rights on lakes and streams that are likely to be acquired by private interest to the exclusion of public fishing, with special attention to the Lake Wallenpaupack problem. In addition, to adopt the suggestion of LeRoy Firestone survey and report in the September issue of the "Federation News."

4. WHEREAS: The State of Pennsylvania is carrying out its commitment and is vigorously accomplishing its part of cleaning the Schuylkill River from its headwaters down to Norristown; and WHEREAS: The Federal Government has committed itself to clean this River from Norristown down; and WHEREAS: The constant movement of tons upon tons of culm downstream in the lower reaches of the Schuylkill are a great menace not

ıly to operations at the Philadelphia avy Yard in their war effort, but to ıe entire Port of Philadelphia—even ıore so in time of war than in times f peace; NOW THEREFORE BE IT ESOLVED: That the Secretary of ıe Pennsylvania Federation of Sportsıen's Clubs write to President Truıan and to Pennsylvania's two Sentors, Hon. Francis Meyers and Hon. dward Martin, vigorously protesting ıe Federal Government's contemlated delay in carrying out its comıitment on this work which is of such reat importance to the entire clean reams program for war as well as or peace.

WHEREAS: The Pennsylvania Fedration of Sportsmen's Clubs, for over wo years has deferred action on a roposed pension plan designed to proect the interests of disabled and red employees of the Fish and Game ommission. WHEREAS: Such acon was agreed to by the Pennsylania Federation of Sportsmen's Clubs, nd at the request of the Governor, a ommittee appointed for the purpose, vould have time to study and recomıend a plan designed to adequately rotect all employees of the Capitol, ncluding those field employees of the ish and Game Commissions WHEREAS: In the interim various departıental employees have been disabled r retired on a small allowance inadeuate to meet their needs; THEREORE BE IT RESOLVED: That the ennsylvania Federation of Sportsıen's Clubs recommend that a bill be ntroduced at the 1951 session of the ssembly to enact into a law an insurıce plan to meet the needs of the mployees as mentioned in this resoution.

Wardens Lament

f the fish warden asks to see your license, he's insulting.

f he takes your word for having one, he's a slacker in his duties.

f he arrests a violator; he's showing how tough he can be.

f he gives the culprit another chance, he's showing favoritism.

f he works day and night to enforce the law, he's a tyrant.

f he relaxes at all, he's a shirker and a chiseler.

f he talks fish and game conservation, he's overly sentimental about his work.

f he keeps quiet, he's not sufficiently interested.

f he works out problems for himself, he's a know-it-all.

f he accepts suggestions from others, he's incompetent.

f he acts firm, he's unfair and a rascal.

f he acts like a gentleman, he's too easy.

o what's a poor guy gonna do?

—Anonymous

THE GIANT HELLBENDER

By A. B. Champlain

We appreciate beauty in all things, but there are times when ugliness is interesting. Take the case of the giant salamander or hellbender. Nobody ever accused it of being beautiful but it certainly provokes thought. The very fact that it is the largest of our native salamanders is enough to make us want to pay it a little attention, though it is neglected by animal fanciers or epicures. Once you become accustomed to meeting salamanders you always want to know a little more about them—get the background, as it were.

Salamanders have the graceful shape and general appearance of true lizards, but they are quite different otherwise. Their bodies are naked, without the scales lizards have, and are more or less slimy. They are more nearly related to frogs.

The hellbender, who is burdened with a scientific name that is easy to forget (Cryptobranchus alleganiensis Daudin), attains a length of two feet or more. It has a broad, flat head and in general looks stupid and indifferent. A thick fold of skin along the side of the body helps to give it a "dish rag" appearance when in the water, and is an aid in its swimming accomplishments. It has four legs, with which it can walk about in a clumsy fashion, and a tail that is nearly as long as the body. The ensemble is greenish-black or slate color and matches nicely the river bottom and mud in which it lives.

The food of hellbenders consists chiefly of crayfish, worms, insects and other small aquatic creatures, of which they consume great amounts. Small fish have been found in their stomachs, but these are not generally a part of the hellbenders' regular diet because they cannot often catch prey so swift in movement. These curious salamanders are often caught with hook and line by persons using live bait, but their favorite dish consists of crayfish with which they may be fooled every time.

Hellbenders breed and lay their strings of eggs in the more shallow parts of streams. The egg masses are similar in general appearance to those of frogs. Each egg—about the size of a pea, and surrounded by an envelope of gelatine—is separated, one from the other, by a constricted neck of this gelatinous material. The whole thing, drawn out, forms a string quite like a string of beads. The eggs hatch in the springtime into tadpoles resembling those of the frogs and they feed and grow up in a similar manner.

These salamanders are found in the waters tributary to the Ohio River, in the Susquehanna River in Pennsylvania, in western New York, and from the Great Lakes region to Iowa, and south in Georgia, North Carolina and Louisiana. At Harrisburg, Pennsylvania, the creature is quite abundant in the Susquehanna River and is commonly known and spoken of by local fishermen and rivermen as the "water dog." This name, however, belongs to another and smaller species of water-living salamander.

Most persons fear the hellbender, but it is quite harmless. And moveover, it is very good to eat. The flesh, which is firm and tender, corresponds very closely to that of the frog. After being dressed as is an eel, then coated with crumbs and fried in butter or lard, it makes a dainty dish that, epicures contend, is hard to excel.—*(Nature Magazine.)*

The hellbender—sometimes called waterdog.

Tips on Better Lines For Better Casting

By Clare Bryan

Where ever fishermen meet, the subject of conversation will inevitably turn to tackle. While lines may come up for discussion, they seldom get the attention necessary for good casting. Little does the average fisherman realize that many of his casting failures may be due to a poorly selected line. Regardless of what we are fishing for, we can not balance our equipment properly without considering our rod and reel, the weight of the lures we are going to cast, and the water in which we intend to fish. All of these factors have a bearing on the line which we should use. This applies however, to casting only. For trolling we need not be so technical.

Not too long ago, no fisherman in the know, would buy a bait casting line unless it was made of the very best silk obtainable. At that time silk was the only material known for a good casting line, especially for fresh water fishing. But, with the advent of nylon, that picture changed rapidly. Fishermen were quick to accept the new material because it required much less care and would hold its strength longer. Nylon is without saying, a great improvement over silk for long wear and hard usage.

Nylon monofilament has also been accepted as a casting line, especially for spinning. None of the old type braided lines can compare with monofilament for smoothness. But, due to the stiffness of this material, it is seldom if ever used on conventional bait casting reels. Even with spin casters, not too much enthusiasm is shown for the single strand, except in the smaller sizes ranging from two to six pounds test.

Inasmuch as we have a great many lines on the market today, a much clearer picture can be drawn by breaking them down to final conclusions. The angler can then choose the line best suited for his particular fishing.

Silk lines come under two classifications: Solid and hard braid. A solid braided line is one braided without a core. These lines, often termed soft lines, are much better for casting than the hard braided type. That is, if the line is kept dry. A soft braided dry line will pay through the guides of the rod more freely and is less apt to burn the thumb. A hard braided line is one braided over a core. There being several reasons for a core in hard braided lines. Some of these reasons are: to keep them round, to cut down absorption of water, to cushion the sleeve threads, and to make them wear longer. Fishermen using very light lures and fast reels will find a soft braided line much better than the hard braided type. Soft lines will, however, pick up much more water. Therefore, when using soft lines, keep the tip high to keep most of the line dry. When comparing casting qualities, a twelve pound soft line handles on a par with a ten pound hard braided line. Fishermen wishing to trade casting ease for durability, should use the hard lines. They will last twice as long if given reasonable care.

Most anglers are under the impression that all solid lines are untreated, while the hard braided lines are waterproofed. This is far from true because practically all soft lines made today have been waterproofed. These lines are just as water repellent as the hard braid waterproofed lines, but lack the wear resistant qualities of the hard line. Of the few manufacturers still making silk bait casting lines, most of them are waterproofing the threads before braiding. These lines, will in most cases, last longer than others. Once the outer surface breaks down on lines waterproofed after braiding, that line will be very little better than an untreated line. Those waterproofed before braiding will give better service when used in salt water, alkaline water, or any water containing even a trace of acids.

There are many factors involved in the breakdown of a silk line. First, silk is animal fiber and will decompose if the line remains wet for any length of time. That is, if the line is not thoroughly waterproofed. The constant whipping of the line against the level-wind finger of the reel and through the guides of the rod will, through friction, cause rapid wear. Many anglers abuse a line by running it over the edge of the boat, against the oars, over rocks, snags and many other obstructions too numerous to mention. There are particles of numerous minerals to be found in practically all so-called fresh water. It might be iron, sulphur, copper, or just plain silica sand, clay or limestone solution. All of these will eventually work themselves between the strands of silk and become abrasive, thereby, weakening the line.

Nylon lines are braided similar to silk lines. The material being hundreds of strands of monofilament no more than a fraction of one thousandth of an inch in diameter. Nylon lines have about the same casting quality as hard braided silk. In fact, few fishermen can tell the difference when both are of the same color. However, there is a certain smoothness to braided nylo not found in hard braided silk, that mak for better casting. Nylon will hold strength much longer and will not affected by salt, alkaline or brackish wate Inasmuch as nylon is waterproof, there no need for the manufacturer to give further treatment.

Many fresh water anglers have taken salt water fishing in the bays and inlets wi their regular bass and musky tackle, all b cause of nylon lines. Surf casters have al taken to nylon. The majority claim it be superior to linen when making long ca which must be made when surf fishing.

When the first braided nylon lines can on the market, there was considerab stretch. Some fishermen were reluctant try them then because they thought it mo difficult to set the hook. Fishermen can no forget this bugaboo, because the manufa turers have removed all surplus stretc Nylon lines now have no more stretch tha those made of silk.

When comparing nylon against silk, it safe to say that ninety per cent of all ba casters prefer nylon. For proof of th assertion, just ask your dealer. When fish ermen go fishing they want to fish, n spend half of their time caring for the tackle. Silk lines, whether treated or ur treated, require care. Whereas, nylon lin can be left on the reel wet without an harm what-so-ever. Nylon is, without ques tion, the choice of the masses.

Originally, nylon monofilament was use as a replacement for silk worm gut leader It has become so popular among fly fisher men, but few of the old timers stick t natural gut. Today, a great many fisherme use the single strand for spinning. Ther being no need for a leader because th material itself is a leader throughout it length. It is far superior to silk when fishin deep or when the greater part of your lin

LEADER TO FLY OR PLAIN HOOK

Fig. 1

Fig. 2

THE "BLOOD" KNOT - NYLON TO NYLON

Fig. 1

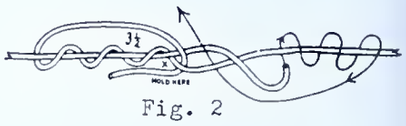


Fig. 2

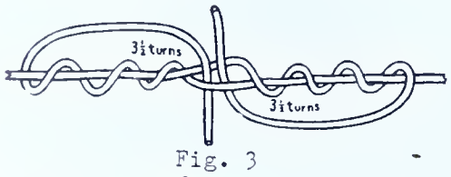


Fig. 3

Fig. 4

Fig. 5

Fig. 6

This diagram of proper fishermen's knots is from "Tackle Topics" by courtesy of Clare Bryan.

Conservation Pledge

I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country—its soil and minerals, its forests, waters, and wildlife.

in the water. Monofilament will pick p very little water, and will spool nicely n a spinning reel, providing there is tension n the line.

Quite a few distance fly casters use monoament for shooting line. It is an advantage ver silk fly lines if kept coiled on a large orage ring until used. Otherwise it will oil like a spring and have a tendency to unch at the first guide during a powerful ast. If kept on a reel for even a few minres, it should be stretched before using. s a shooting line for distance fly casting, ere is still room for much improvement.

—*Tackle Topics*

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ou Don't Have To Be Crazy To Be a Fisherman—But It Helps!

shermen are realy peculiar galoots
ith queer looking hats and big rubber boots.
ey read all the dope, both fact and fable,
nd eagerly scan the Solunar Table.
ey want to know if it's going to storm,
ow deep is the water, is it cold or warm?
shing is a science with some of these guys,
they make all their plugs and tie their own flies.
ey will work for hours then beam with pride
n a hook, two feathers and a hunk of deer hide.
en when they think that everything's right,
ey get up and pack in the middle of the night.
ter loading the junk in the family flivver,
ey make the trip to the lake or river.
hen they arrive they can hardly wait
rig their tackle and sort the bait.
ere's the mouse, the frog, the pork rind and snail,
t where the heck is the minnow pail?
some men fishing's the spice of life,
hile others do it to escape the wife!
ey wade through water, mud and slime,
d think they're having a wonderful time.
en on a day that's dark and hazy,
ey work on flies and drive themselves crazy.
ddenly you hear a blood curdling cry,
reka! I've got it! The Atomic fly!

—*Harold Frontz*

The Old-Timer Gripes

(*From page* 11)

"Have you been up to Collie Hummel's Pond? They took the clay out about twenty years ago and old Collie dammed up the drainage ditch and planted some trees. Figgured to make a swimming hole for the kids and maybe a picnic place for older folks. After a few years he had the water tested and found it was clean enough for sunnies and bullheads. He put in some fish and planted some water lillies. The kids for miles around come to fish and swim. The old man gets a lot of fun just watching the kids and he's so proud of the water lillies that he takes special care of them. It's one of the prettiest places in all these hills."

"Know you couldn't do that many places on account of the acid water but maybe some places could be fixed up like Collies pond."

Mack pricked up his ears cocked his head and whined as a squirrel slid around the trunk of a shagbark a few yards down the hill. With an easy motion the Old Timer brought his rifle to his shoulder and as the bushy tail paused for an instant, there was a sharp splat as the pellet found its mark. The dog was away with the report and as the squirrel landed with a thump on the yellow leaves he gave it a satisfied shake or two and trotted proudly back to place it at the Old Timer's feet. With deft movements he removed the visera and rewarded the eager dog with the heart and liver. Carefully he laid the latest beside the others.

After a few moments of silence he resumed. "You know that one time Morgan Run was good trout stream. Then they poisoned it by opening the mines. I noticed last summer that the moss is coming back and here and there you can see crawfish tunnels beside the stones. That mine sealing operation the state put in will pay off after a few years. Then we'll have another stream back in production." Seems like if enough people talk and work for clean streams maybe we can get 'em back."

"Let's get down to the hollow and let Mack find us another squirrel before we go back home."

"Maybe your boy will have a chance to get fish out of Big Creek if we do something about it now."

A deep pool on Bushkill Creek, a fine Pike County trout stream. Not many streams in Pennsylvania can boast of such mountain beauty. The photo was snapped by Bob Rineard of Harrisburg.

PENNSYLVANIA FISH LAW VIOLATIONS

CASES SETTLED DURING THE MONTH OF NOVEMBER 1950

ALLEGHENY COUNTY

Banyasz, Mrs. Dorothy M., 3300 Alberta St., Homestead, Pa. Fishing without a license ..... $ 25.00

Banyasz, Joseph A., 3300 Alberta St., Homestead Park, Pa. Fishing without a license 25.00

Brown, James Tom, 6566 Rowan Ave., East Liberty, Pittsburgh, Pa. Lines not under control 20.00

Dodson, Edward, 428 Hawkins Ave., Rankin, Pa. Fishing in State Fish Hatchery 100.00

Gumbeski, A. W., 1463 Hass St., Pittsburgh, Pa. Exceeding creel limit . 10.00

Heironimus, Earl E., 3069 Latonia Ave., Pittsburgh, Pa. Operating motorboat without displaying license plates 10.00

Knorr, Joseph J., 2330 Spring St., Pittsburgh, Pa. Fishing without a license 25.00

Lis, Peter, 3016 Jersey Ave., McKeesport, Pa. Operating motorboat without having a life-preserver on board 10.00

Loeffler, John P., 6953 Reynolds St., Pittsburgh, Pa. Fishing without a license 25.00

Rice, Lawrence P., R.F.D., Pittsburgh, Pa., Millvale. Fishing without a license 25.00

Tautkus, Frank, 2914 Stromberg Ave., Pittsburgh, Pa. Fish under legal size 20.00

Webb, Melvin, R. D. No. 2, Box 445, McKeesport, Pa. Operating motorboat without a life-preserver on board 10.00

ARMSTRONG COUNTY

Jordan, C. D., R. D. No. 1, Karns City, Pa. Exceeding creel limit 20.00

BEAVER COUNTY

Dobich, William, 424 Phillips St., Aliquippa, Pa. Fishing without a license 25.00

Sharketti, Joseph, R. F. D. No. 2, Ellwood City, Pa. Violating rules and regulations of the Penna. Fish Commission 20.00

Sharketti, Joseph, R. D. D. No. 2, Ellwood City, Pa. Interfering with an Officer in the performance of his duty 100.00

BERKS COUNTY

Becker, Robert W., 220 S. 3rd St., Reading, Pa. Using an illegal device 20.00

High, Mrs. Star, 2426 Kutztown Road, Reading, Pa. Fishing without a license 25.00

Lausch, Lynn V., 523 Fern Ave., Reading Pa. Operating motorboat without displaying license plates .. 10.00

Weinhold, Paul, 134 East Elm St., Shillington, Pa. Draining a Dam without a permit 100.00

BLAIR COUNTY

Banks, James W., Williamsburg, Pa. Fish out of season 10.00

Bottomfield, Phillip F., R. D., Hollidaysburg, Pa. Fishing without a license 25.00

Peters, David S., General Delivery, Tyrone, Pa. Fishing without a license 25.00

Wentz, Chester M., 545 6th St., Lakemont, Altoona, Pa. Fish under legal size 10.00

BUTLER COUNTY

Prevost, James, R. D. 1, Freedom, Pa. Operating motorboat without license plates 10.00

CAMBRIA COUNTY

Brauer, James A., 634 Somerset St., Johnstown, Pa. Operating a motorboat without license plates 10.00

Brock, Robert C., 1053 Jacoby St., Johnstown, Pa. Fishing in a stream closed for five days by the Penna. Fish Commission after stocking with Trout 25.00

Hall, Harold D., 123 Adams St., Johnstown, Pa. Rods not under immediate control 20.00

Salem, Jim, 500 First St., Conemaugh, Pa. Fishing without a license 25.00

Weczorek, Joseph, Johnstown, R. D. No. 2, Pa. Rods not under immediate control 20.00

CHESTER COUNTY

Clark, George B., Jr., 441 N. Walnut St., West Chester, Pa. Fishing without a license 25.00

Dove, Luther H., Box 210, West Chester, Pa. Exceeding creel limit 20.00

CLARION COUNTY

Blake, D. O., Fairmount City, Pa. Exceeding creel limit 10.00

CLINTON COUNTY

Oswald, John S., 607 W. Walnut St., Lock Haven, Pa. Illegal device .. 20.00

Proving you're never too old. Mrs. Agnes McKinney, 82, of Frackville, baits a hook while on a fishing trip to Bushkill Creek. No report as to her luck. (Easton Express Photo).

Walizer, Warren, North Bend, Pa. Violation of the rules and regulations of Young Woman's Creek . 20.

CRAWFORD COUNTY

Conrad, W. H., 931 Randolph St., Meadville, Pa. Fishing without a license ..... 25.

CUMBERLAND COUNTY

Kauffman, Norman H., 331 Walnut St., Shippensburg, Pa. Fish under legal size ..... 10.

DAUPHIN COUNTY

Bussick, Alma M., 508 S. 13th St., Harrisburg, Pa. Fishing without a license ..... 25.

Gluntz, Charles, Oberlin, Pa. Illegal device ..... 20.

DELAWARE COUNTY

Gale, Joseph, 1217 Orange St., Sharon Hill, Pa. Fishing without a license . 25.

Terry, C. W., 98 Upland Terrace, Collingsdale, Pa. Exceeding creel limit 20.

ERIE COUNTY

Freeman, Andrew, 1714 McClelland Ave., Erie, Pa. Exceeding creel limit ..... 30.

Green, Addie, 2232 E. 18th St., Erie, Pa. Exceeding creel limit ..... 20.

Jones, Ada, 2249 E. 18th St., Erie, Pa. Exceeding creel limit ..... 20.

Smith, James, 416 Cherry St., Erie, Pa. Fish under legal size ..... 20.

FRANKLIN COUNTY

Martin, Glenn C., 62 5th Ave., Chambersburg, Pa. Fishing without a license ..... 25.

Oyler, Kenneth B., R. D. No. 1, Waynesboro, Pa. Exceeding baitfish limit ..... 10.

FULTON COUNTY

Shives, Robert D., Needmore, Pa. Loaning a fishing license ..... 25.

GREEN COUNTY

Forsyth, Kenneth A., 229 S. Market St., Carmichaels, Pa. Operating a motorboat without a license ..... 10.

HUNTINGDON COUNTY

Dell, Paul Elwood, Mill Creek, Pa. Using illegal device ..... 20.

INDIANA COUNTY

Theys, Helen Marie, 775 Fenn Alley, Johnstown, Pa. Fishing without a license ..... 25.

JEFFERSON COUNTY

Adams, Cleyo, R. D. No. 4, Punxsutawney, Pa. Fish under legal size . 20.

Adams, Cleyo, R. D. No. 4, Punxsutawney, Pa. Exceeding creel limit . 10.

Brocheys, Landess, 215 Mable St., Reynoldsville, Pa. Fish under legal size ..... 60.

Rinehuls, John, E., Grant St., Reynoldsville, Pa. Fish under legal size 40.

LACKAWANNA COUNTY

Karboski, Anthony, 818 Eynon St., Scranton, Pa. Fish under legal size 10.

Lakevitch, William, 1814 Nay Aug Ave., Scranton, Pa. Fish under legal size ..... 10.

elmokas, John, 111 N. Everett Ave., Scranton, Pa. Exceeding creel limit 10.00

NCASTER COUNTY

uck, Miles, R. D. No. 3, Lancaster, Pa. Operating motorboat without displaying license plates 5.00

ng, Lloyd, R. D. No. 1, Lancaster, Pa. Using an illegal device 20.00

ingate, Daniel, 318 Fairview Ave., Lancaster, Pa. Using an illegal device 20.00

issler, James, R. D. No. 2, Conestoga, Pa. Fish under legal size .. 10.00

WRENCE COUNTY

encer, Byron, 119 Lincoln St., New Castle, Pa. Exceeding bait-fish limit 10.00

BANON COUNTY

ner, Lester, Myerstown, Pa. Fishing without a license 25.00

ssinger, Wayne, 224 S. 6th Street, Lebanon, Pa. Exceeding creel limit 20.00

ZERNE COUNTY

etz, Edward, 172 Sambourne St., Wilkes-Barre, Pa. Exceeding creel limit 10.00

lkowski, Joseph, 97 Mill St., Pittston, Pa. Exceeding creel limit .. 10.00

KEAN COUNTY

uk, Ray F., Bradford, Pa. Fish under legal size 10.00

trasy, Joseph, R. D. No. 1, Little Geneses, N. Y. Fishing without a license 25.00

RCER COUNTY

own, Paul V., R. D. No. 5, Greenville, Pa. No lights on boat 10.00

ONTGOMERY COUNTY

ive, Franklin H., 37 E. Reliance Road, Souderton, Pa. Operating motorboat without displaying license plates 10.00

RTHUMBERLAND COUNTY

Eskera, John, 1420 W. Mulberry St., Shamokin, Pa. Fish under legal size 10.00

Bnarczyk, Thomas J., 241 Beach Street, Mt. Carmel, Pa. Fish under legal size 10.00

Bssi, Anthony, 561 Chestnut St., Sulpmont, Pa. Fishing during closed period 25.00

McCreavey, James D., 34 S. Hanover St., Northumberland, Pa. Fishing without a license 25.00

Mriello, Ralph, 523 Chestnut St., Sulpmont, Pa. Fishing during closed period 25.00

PIRY COUNTY

Siffer, Jacob, R. D. No. 1, Duncannon, Pa. Possessing illegal net 100.00

PILADELPHIA COUNTY

Larozzi, Anthony, 3302 N. Bailey St., Philadelphia, Pa. Fishing without a license 25.00

PIE COUNTY

Rosome, William, Greeley, Pa. Illegal device 20.00

SOMERSET COUNTY

Kkade, Walter S., R. D. No. 4, Box 322, Johnstown, Pa. Fishing without a license 25.00

Wilt, Carl R., Latrobe Ave., Confluence, Pa. Fishing without a license 25.00

TIOGA COUNTY

Adams, Lewis, N. Academy St., Mansfield, Pa. Exceeding creel limit .. 20.00

Cramer, Tom, Mansfield, Pa. Exceeding creel limit 20.00

WESTMORELAND COUNTY

Winfield, Merrill, R. D. No. 2, Box 310, Pitcairn, Pa. Operating a motorboat without having a life-preserver on board 10.00

YORK COUNTY

Brillhart, Frank L., 221 Locust St., Hanover, Pa. Exceeding creel limit 10.00

Harris, Gail, 53 S. Beaver St., York, Pa. Giving false information to obtain a fishing license 25.00

Plitt, Bert A., 38 E. South St., York, Pa. Illegal device 20.00

OUT OF STATE

Kudasik, Casimir W., c/o Berthas Inn, N. Main St., Seymour, Conn. Fishing without a license 25.00

Bryan, Herber, Elkton, Maryland. Giving false information to obtain a fishing license 25.00

Norman, Julia, 8420 Woodcliff Court, Silver Springs, Maryland. Giving false information to secure a resident fishing license 25.00

Norman, Ova Dean, 8420 Woodcliff Court, Silver Springs, Maryland. Giving false information to secure a resident license 25.00

Dunn, Theodore B., Monroe, N. Y. Exceeding creel limit 10.00

Dunn, Theodore B., Munroe, N. Y. Fish under legal size 10.00

Siegel, Murray, Lexington Ave., Cor. 103rd St., New York, N. Y. Using explosives without a permit 100.00

Maintaining Food in Trout Streams

By Dwight A. Webster

Information on the maintenance and improvement of trout streams, *from the food angle,* is not plentiful. The British have attempted to increase the quantity of insects in some of their slow-moving trout streams by making conditions more favorable for the hatching of eggs, or by creating more sites for egglaying. They have also, from time to time, tried to make artificial introductions of flies with the aim of bringing in desirable species found in other streams or of augmenting the supply of an insect food already present.

In this country, about the only comparable efforts have been in transplants of freshwater crustaceans, of which the Caledonia "shrimp" in Spring Creek, New York, is an example. The results of these transplants have been unpredictable.

Fundamentally, the amount of life a stream can support is related to the soils and rocks forming the drainage area. These supply the basic inorganic nutrients. Theoretically, by increasing the quantities of these nutrients by artificial enrichment, we should be able to increase the food. A few observations exist which indicate that under the proper conditions this may be accomplished, but the practicability has not been established. The problem is, after all, quite different from pond fertilization, which can be done successfully because it treats a more or less closed circulation. A basic nutrient, to achieve maximum usefulness, has to be continuously available—as would result from the leaching action in soils. Inadvertently, many of our streams are thus artificially enriched in areas of intensive agriculture or by seepage from barnyards. Perhaps we may eventually be in a position to recommend keeping bags of 5-10-5 lying around in or near the headwaters.

A little pollution—of the right kind—may be beneficial under some conditions, but far more often pollution is detrimental to trout stream foods and must be prevented or remedied. Most of our aquatic insects are rather sensitive to pollution, either because the pollutant is in itself intolerable, or because it affects their food supply or some other environmental condition.

A "natural" pollutant to many streams under present-day conditions is silt and excessive erosion. Its cause and devastating effect are too well known to need further amplification here. Its cure is seldom simple or rapid (as the sealing off of an exposed vein of clay sometimes is), and the solution is one of wise land-use practices, of reforestation, of replanting stream banks.

The use of willows and other shrubs to check and reclaim eroding stream banks is a well established practice, and it is one which sportsmen's groups in general can profitably explore as club projects. Aside from increased shade and bank stability, one may also speculate on the increased availability of terrestrial fish food which will be forthcoming from the overhanging foliage.

One environmental factor that does untold damage in many streams is ice. If you have ever watched ice going out of a stream, pounding and grinding on the riffles, you may have reflected on what happens to the life on the bottom. In some stream-types the loss in insect life is tremendous. Stones that were slick with brownish algae wind up well scrubbed by ice and moving sand and rock. Fortunately stream plant life has remarkable regenerative powers, and in a matter of weeks the rocks again support the "browse" utilized by much of underwater life. But any stream improvement work that will minimize the original loss is certainly worthwhile.

Perhaps one of the biggest losses of potential trout is the food going down the gullets of other fishes—competitors. Fish like the fallfish ("Beaverkill tarpon"), large suckers, smallmouth bass in trout waters, horned dace, and perhaps many of the other minnows, fall in this category. What they eat, the trout can't. That trout may in turn eat the small competitors is common knowledge, of course, but evidence is accumulating that trout are much better off by themselves in ponds and probably also in many streams.

All in all, many of the factors that affect stream insect life are not conducive to manipulation. But some are. One generalization that one may put forth is that if the stream is kept healthy and happy, the insects and other aquatic life take care of themselves.—*New York Conservationist.*

General Fishing Fundamentals

There are three basic methods of fishing—

Simple "still" fishing, where a baited hook is dropped into either fresh or salt water and left until a fish bites at it.

Trolling, where the hook, with bait or lure, is drawn through or across the water by a slowly-moving boat (at 2 to 4 miles an hour). Swivels between the line and leader prevent the motion of the hook and bait from twisting the line. Trolling is used in salt water, on fresh water lakes and in streams of sufficient breadth and depth.

Casting, where the fisherman uses the centrifugal force of a rod to "shoot" a lure over the water—then reeling the lure in so that it imitates the action of live bait. The principal casting techniques are fly and bait casting for fresh water fish and surf casting for salt water fish.

Some General Suggestions

Tackle: Start with simple tackle and don't buy more expensive types until you know how to use them. Your sporting goods dealer will give you sound suggestions.

Clothing: Just two pieces of advice. Take a raincoat, because you'll frequently want to fish in a drizzle. Have proper footwear—waders or hobnailed hunting boots for stream fishing and waders for surf casting. A broad brimmed hat and sun glasses are also recommended.

"Safety First": In surf casting, keep an eye out for the occasional big wave that can tumble you. When wading a stream, watch out for slimy boulders. In a small boat, don't stand up . . . in changing seats, keep your weight in the middle and hold on to the gunwales. Be prepared for accidents from fishing hooks; carry small clippers—if a hook is imbedded in the flesh cut the shank as close to the end as possible and then push the barb through until it is removed. Apply antiseptic without delay.

Don't Suffer: Guard against sunburn and insect bites. Take along a good sunburn preventive (Sutra Lotion or Cream is excellent) and insect repellent.

Angles on Angling: Noise doesn't bother fish but sudden movement frightens them. When boat fishing, drop your anchor about 25 feet from where you expect to try your luck. In warm weather, you'll get best results in the cool of the morning or the early evening. Keep your catch out of the sun.

Fresh Water Fishing

Cane Pole Fishing

The equipment is simple, consisting of a long cane pole, a length of line, a nylon leader, cork float and an assortment of hooks and sinkers. Baits are natural ones and usually include worms, frogs, minnows, hellgrammites, crawfish, grubs and insects. Good fishing spots are around piers, near lily pads, submerged tree stumps and brush piles.

Hints for Cane Pole Fishing

1. Try "skipping" a pork strip and spinner combination for that hard-to-catch bass or pickerel.
2. Approach each fishing spot quietly so that ripples won't warn the fish of your presence.
3. When you hook a big one, hold him on a tight line in the water until he is tired.
4. Give the larger species such as bass and pike a chance to swallow the bait before setting the hook.

Fly Casting

Fly casting, which could appropriately be called "line casting," utilizes the weight of the line acting on the rod to achieve results. The casting action is charted in the accompanying diagrams.

Hints for Fly Casting

1. A good back cast is essential to a good forward cast.
2. Use the power of your rod to do the casting—TIMING—not brawn makes the successful fly caster.
3. Don't try long distance casting until you can cast skillfully and easily with the shorter line.
4. Don't feed out loose line during the pick-up or start of the forward cast.
5. Try to cast about 3 feet above the place you intend to fish and let your fly settle gently to its mark.
6. Don't cast unnecessarily—the fly has to be in the water for the fish to strike.
7. Vary the action of your fly when fishing.

Concerning Flies

Wet flies purport to imitate underwater insects, larva or minnows, and are usually fished by casting across the stream and letting the current sweep the fly downstream in a wide arc. A slight motion of your rod tip will cause your fly to look alive in the water and to get more strikes in both stream and lake fishing.

Dry flies on the other hand, imitate bugs and insects which have fallen on the surface of the water. They are usually fished "up and across" the stream to avoid the drag of your line and leader against the current. At times a slight quivering of the rod tip to create the illusion of a live insect struggling on the surface is an excellent way of inducing an old "whopper" to strike.

Bass Bugs

Included under this category are the various hair and cork bodied surface bugs, feather minnows and fly rod plugs. All of these lures offer considerable air resistance when casting, hence the angler will find that a bass action rod and a "torpedo" tapered line are more suitable for this type of fishing.

Hints for Bass Bugging

1. Fish around submerged tree stumps, lily pads and along the shore line.
2. Fish slowly, allowing the bug to sit on the surface with an occasional twitch of your rod tip to cause it to quiver.
3. In addition to bass, the bream or bluegill will strike avidly at small bass bugs.

Bait Casting

Casting is accomplished primarily with the wrist in a continuous action following the procedure described as:

1. Keep the reel handles pointed up while casting.
2. Cast in a vertical plane when possible.
3. Blend the forward and backward motion of your rod into one continuous action.
4. Use your wrist—not your arm.

Baits, Plugs, Lures

With the bait casting rod, it is possible to cast a variety of natural baits such as worm and spinner rigs, live frogs or shiners for all game fish.

Fishermen enjoy greater freedom of expression, however, through the use of artificial lures, for these run the gamut from wabbling and darting metal spoons to rainbow-hued plugs. In general, surface lur are used when the fish are feeding in th shallows, and underwater lures are use when the fish lie in the deeper stretches.

Hints for Fishing

1. Try adding a strip of pork rind to you favorite lure.
2. Vary the action of your lure until yo find one that receives strikes.
3. Use a nylon leader in hard fished area
4. To avoid excessive wear on the fro part of your line, use a nylon leader th length of your rod.

Salt Water Fishing

Fine Points on Surf Casting

In casting, it is well to start with sever easy casts in order to wet down the linen nylon line before making harder casts. good cast sails up and out in an easy a before it descends to the water.

Hints for Surf Casters

1. Don't try to cast across the ocea Smooth, accurate casting will allow muc greater enjoyment of the sport.
2. Cut off a few feet of line before eac trip. Chafing of the sand and the pressure casting wear a line quite rapidly.

Squidding

The term squidding is applied to a wi variety of artificial lure casting in the su Among the more common of these lures a block tin jigs, feathered jigs, popping plu and eel skin casters. These lures are ca in likely spots and retrieved as soon as the strike the water.

Hints for Squidding

1. Vary the speed of your retrieve. Ofte the fish will strike a fast moving lure aft having refused it when it was reeled slowly.
2. Watch the sea gulls. They are ofte hovering above a school of fish waiting f the bait fish to be driven to the surface.

Bait Fishing

Among the best natural baits for su fishing are crabs, clams, worms, squid, shrim and pieces of cut bait.

Hints for Bait Fishing

1. A pyramid sinker will keep your r from rolling all over the bottom.
2. If nuisance fish steal bait, tie it on wi a few turns of fine wire or thread.
3. Give the fish a chance to swallow th bait before trying to set the hook.

Trolling

Within a few miles of shore the salt wat troller will find a wide variety of fish. A low the lure which may be a feathered ji wabbling spoon, or block tin squid to flas through the water about sixty to one hundre feet behind a moving boat.

Hints for Trolling

1. Watch for schools of bait fish near th surface. "Big fellows" may be below.
2. Try trolling at a different speed if yo are not having any luck.
3. A trolling weight added to your line wi often bring your lure down to where th fish are hiding.
4. Make certain you have plenty of swivel A rapidly revolving lure can untwist yo line if the swivels are not large enough working correctly.—*Ashaway Line Co.*

Can You Name It?

The Muskrat

PENNSYLVANIA'S

ANTI-POLLUTION PROGRESS

)hio River to Undergo Tests

An extensive sampling survey to determine ıe quality of the water in the Ohio River ıd its tributaries was conducted around ıe clock from Sept. 18 to 29 inclusive under irection of the Ohio River Valley Water anitation Commission with the cooperation f the signatory states, U. S. Public Health ervice, U. S. Geological Survey and the . S. Army Engineers. The work in this tate was conducted by the Bureau of Engieering, State Health Department. Three ıemists from the Industrial Wastes Division the Bureau were assigned to the work. anitary chemical analyses were made in the ureau of Engineering mobile laboratory hich were taken to the area. Other nalyses, bacteriological, chemical and minral, and phenol determinations, were made y the different cooperating agencies and ıe data was compiled by the Commission.

Purpose of the survey is to procure data determine the degree of progress which ill be made in the anti-pollution program ıd to provide information upon which to ıse future standards.

The states which are members of the ommission are Pennsylvania, New York, est Virginia, Virginia, Ohio, Indiana, Illiois and Kentucky.

orrection on Pollution Agent

In announcing recently the effects on fish cyanides when that material becomes posed to sunlight, the material was incorctly referred to and should have been rro-and ferricyanides, according to an anuncement by chemists of the Bureau of ngineering, State Department of Health, ıo are cooperating with the Fish Commisn in conducting research into the effects pollution on fish. In the research fish e being used as they serve as an inditor of the condition of the water. It was und in the research that ferro-and ferricyides in water in an amount of 1,000 parts r million will have no adverse effects until e materials become exposed to sunlight. ter that exposure they become lethal and ly one part per million of the ferro-and ricyanides will cause fish to show distress 15 minutes and cause death in an hour.

ıys $600 For Death of Fish

When a Reading Company railroad car ershot the switch at the Sine coal yards Perkasie, recently, it crashed into a fuel tank releasing 10,000 gallons of oil.

Much of the oil reached the Northwest anch of the Perkiomen Creek killing many all fish and some larger ones in approxitely a half mile of the stream in the heart the borough of Perkasie.

Harry Z. Cole, State Fish Warden at Nortown, reported a check in the sum of $10 payable to the Pennsylvania Fish Comssion in payment for the fish killed.

Construction Orders Reaffirmed

In letters to Mayor Claude R. Robins of Harrisburg and Mayor Luther M. Kniffen of Wilkes-Barre, the Sanitary Water Board has reaffirmed its order to those cities requiring the construction of sewage treatment works by June 1, 1952. All sewered communities along the Susquehanna River have received similar orders.

The letters to the mayors of Harrisburg and Wilkes-Barre were in response to their requests that the Board grant extensions of time for the execution of the orders, claiming that under existing conditions there is a shortage of materials and equipment, that costs are high and that bonds for financing the projects are not readily sold.

In reply the Board states that it "appreciates your careful examination of conditions which might affect your construction program, but the Board also has considered the availability of materials and equipment, price levels, and interest rates in the light of present facts. After reviewing these and the Board's stream cleanup program as affecting others as well as (your city), and in fairness to those municipalities and industries which have proceeded to carry out the orders, and as governed by present conditions, the Board reaffirmed its orders concerning the construction of sewage treatment works."

It is pointed out by the Board that popularity of Authority bonds is increasing and that the City of Bethlehem Authority recently sold bonds for the construction of sewers, interceptors and a sewage treatment works in that city on which the average rate is slightly less than 2 per cent.

Ordered to Comply With Law

Orders to abate pollution or submit plans for waste treatment facilities have been issued to 18 additional industries by the Sanitary Water Board.

The latest orders have been issued to National Sugar Refining Co., American Sugar Refining Co., Oscar Mayer & Co., meat packers, Consolidated Dressed Beef Co., Philadelphia Gas Works, Station A; American Oil Co., The Texas Co., Pennbrook Milk Co., Cities Service Oil Co., Major Oil Co., Richfield Oil Corp., Socony Vacuum Oil Co., Esso Standard Oil Co., Schuylkill River Oil Terminal, orders relate to petroleum bulk storage in the case of all the oil companies; Baltimore & Ohio R.R. Co., engine yard; The Barrett Co., roofing products. All the concerns are located in Philadelphia.

The other concern is the Grayce Farms Dairy, Tunkhannock Township, Wyoming Co.

Club Must Abate Pollution

The Board issued an order to the Berkshire Country Club, Bern Township, Berks Co., to abate the discharge of sewage to the public waterways or to submit plans for sewage treatment. The club now uses a septic tank, the overflow from which is reported to discharge to a ditch about 50 feet from the Schuylkill River about a mile upstream from Reading.

Philadelphia Awards Contract

The Sanitary Water Board has been advised that Philadelphia recently awarded another contract in its $60 million sewerage program bringing the total of work completed and under construction to about $35 million. The latest contract is for $5,400,000. The Southeast treatment works is also under construction and the $11 million Northeast sewage treatment works will be placed in operation within the next few weeks.

The sewerage program of Philadelphia is the largest of that of any city in the country scheduled for completion within a specified time.

The Board has also been advised that Upper Darby Township, Delaware Co., has awarded a contract for $117,000 for the construction of an intercepting sewer along Naylors Run to replace an inadequate sewer to prevent pollution of that stream.

Additions to the sewage treatment works at Byberry State Hospital, costing $177,000, have been placed in operation, providing the required treatment of sewage at that institution. The treatment works serves a population of about 8,000 persons.

Schuylkill Haven Plans Plant

A contract for the construction of a new sewer system and a primary sewage treatment works for Schuylkill Haven, population 6,518, complying with the requirements that all municipalities along the Schuylkill River provide sewage treatment, has been awarded at a total cost of $760,000. The contract was awarded by the Municipal Authority, formed last March by the Borough Council. Sewage from the borough is now being discharged direct to the river through an inadequate sewer system which will be replaced.

The new sewer system in Schuylkill Haven will consist of 63,575 feet of eight-inch; 3,196 feet of 12-inch; 1,887 feet of 14-inch, and 563 feet of 18-inch pipe, cost of which will be $528,300. Three pumping stations will be built at a cost of $44,000 and the primary treatment works will cost $187,700.

Red Rock Summit Dam Completed

The huge dam on the top of Red Rock Mountain has been completed and the contractor has moved all his equipment from the scene.

The section's newest reservoir is now filling with water and soon will join two other dams to provide a splendid recreation spot as well as water storage for Kitchens Creek. The new reservoir will be known as Ricketts Glen State Park dam.

Although the dam itself is completed, beaches will be constructed and the surrounding area landscaped by the Park Commission. These projects most likely will be scaped by the park commission.

The Fish Commission has indicated that the dam will be stocked in the near future.

An Object Familiar to Fishermen . . .

Can You Name It?

THIS NOCTURNAL WATER ANIMAL, 22 TO 23 INCHES LONG OR ABOUT FOUR TIMES THE SIZE OF A HOUSE RAT, IS CLOSELY RELATED TO THE MEADOW MOUSE. IT LIKES WATER AND LIVES NEAR IT, PREFERRING THE SALTY MARSHES. ITS HOME IS IN THE WATER BUT SOMETIMES DIGS HOLES IN BANKS. ITS HIND FEET ARE PARTIALLY WEBBED FOR SWIMMING.

(See page 24 for answer)

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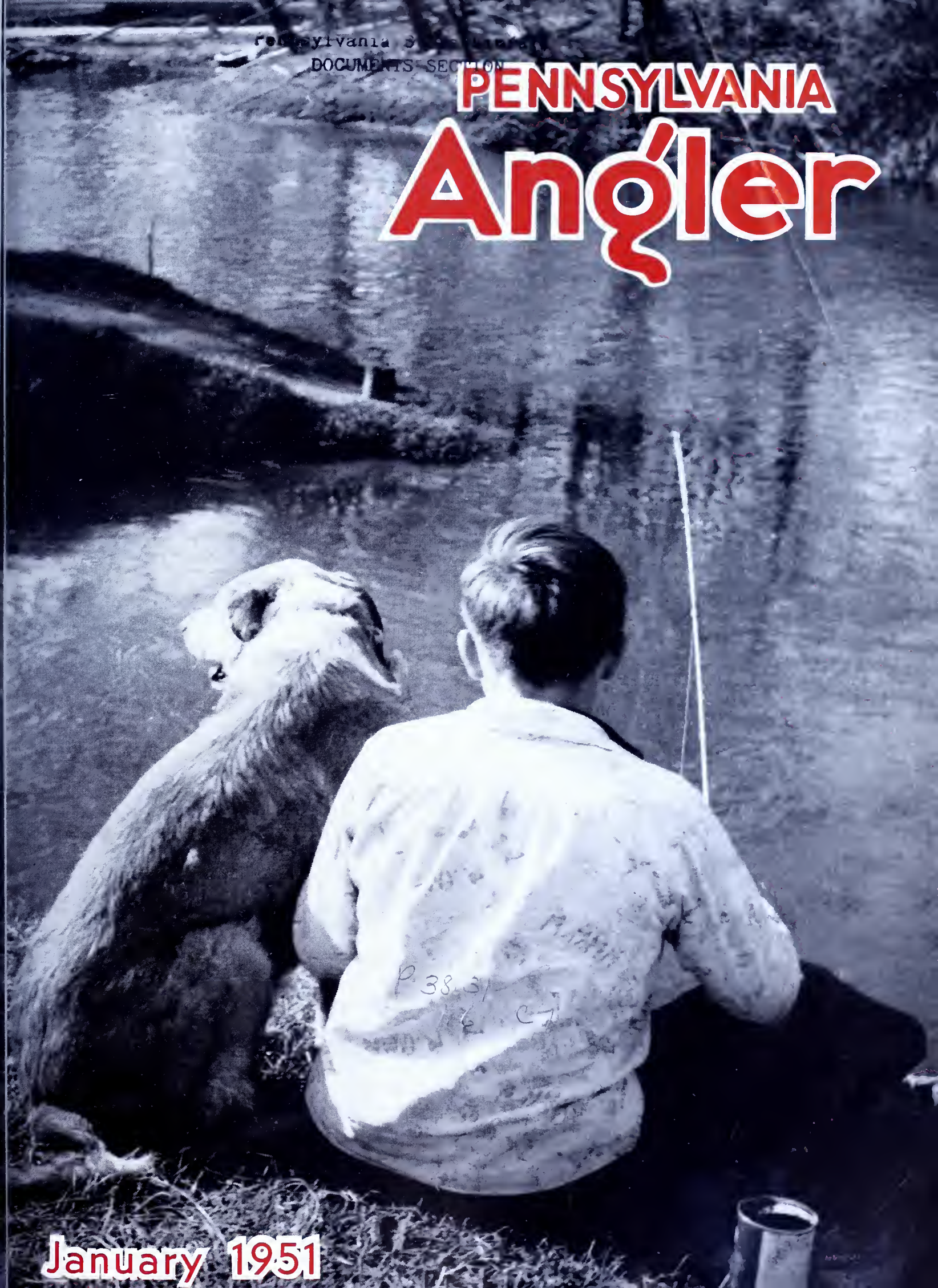

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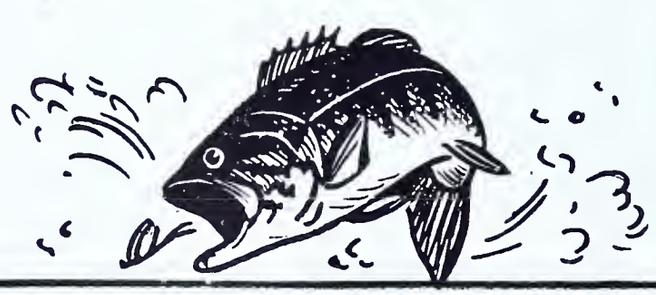

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ISH COMMISSION
HARRISBURG, PA.

The Angler

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PARTNERS—
Waiting For A Bite

War and Our Resources

An Editorial by MICHAEL HUDOBA

This Nation has mobilized its strength and called upon its resources to protect its existence for the third time in this half century, and the second time within the present generation.

That our natural resources have been abundant is a vital factor in our continuing position of leadership in a world of peril. But how long can we draw upon the good fortune of nature's beneficence without exhausting its capacity as well as the patience of the good earth? There is a limit to the future we can spend today.

The natural resources of soil, water, land, forest and mineral are the basic elements of existence to men and nations. We have turned the wheels of industry to create the highest living standards in the world by our raw resources. In addition to ourselves, we have fed, clothed and sheltered much of the civilized world on a land capacity which is only a fraction of the earth's surface.

While we pour billions into costs of past wars and defense for future wars, we virtually neglect the defense of our nonrenewable resources. While we spend more than 71 per cent of our multi-billion-dollar budget for defense, only five per cent goes toward conservation of the natural resources, which is the basis of our whole existence. And wrapped up in that five per cent are pseudo-conservation programs that dabble in aftereffects of resource ills, without attacking fundamental issues.

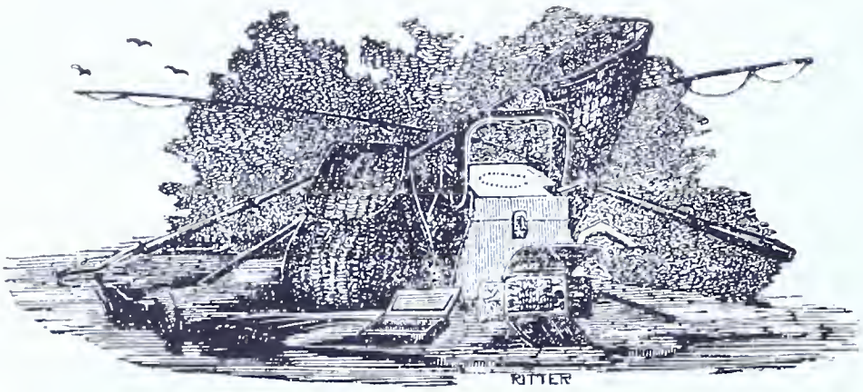
We cannot continue to implement our defense efforts indefinitely in the absence of expanding such programs, nor can we avoid the tragic Maginot line philosophy with stock piles of defense material if our natural resources position is allowed to deteriorate.

Our enemies know too well the restriction of resource deficiencies and they cast covetous eyes and lick their chops over the profligacy of our policies.

It is time for this nation to take stock of its natural resources. It is time to organize an all-out mobilization to preserve our resources and to restore those which we are depleting. We must not be trapped in the rush of budgetary readjustments to counter international crises, to deaccent vital domestic resource restoration programs. This is no less a mandatory defense need than arms and implements of war.

Before it is too late, this nation must aggressively undertake and expand its resource restoration and conservation programs. And contrary to prevalent Washington philosophy, this is not all dam building, nor all subsidy payments. It must deal objectively in basic restoration of soil, water, land and forest resources.

And in the future, with crises past, these are the elements on which we must depend to rehabilitate our domestic economy. These are the elements which will have to pay the bills.



General and Fly Rod, Trout Basket, Bait Kettle, Bait Box, and Tackle Case.

AMERICAN FISHING BOOKS

By Charles M. Wetzel—Part One

A History of Angling and Angling Literature in America, new book by a well-known author, destined to be top reference work in any outdoor library. The ANGLER will present it in six parts beginning with this issue.

THROUGHOUT my life I have been keenly interested in angling and in speculating on what the fishing was like in the early days of this country. Many an "old timer" have I quizzed as to the kinds of rods, reel, lines and flies then in use and invariably it brought forth a glad and voluble response, for fishing is a subject that is dear and close to the hearts of almost everyone.

But it was for information farther back that I was searching. Now and then I would discover some old angling tome whose contents would be eagerly devoured. However, a long period of time elapsed before the links of the chain could be fitted together and an accurate history of the evolution of the sport in this country be obtained. This was accomplished mainly through the medium of old fishing books, for in no other way could the puzzle be solved.

Among the very early authors little mention can be found concerning fishing as a sport; however, through their writings we can form a mental picture of the quantity of fish and game existing in those days, the untrodden wilderness with its gushing trout streams, the hardships and privations endured by the early settlers in carving their homes out of the wilderness, and their constant danger in being exposed to the ravages of the Indians. Truly the lot of our ancestors, the pioneers, was a hard one and we owe them much for providing us with a goodly heritage and a pleasant place to live.

In tracing the evolution of angling in America it will be noticed that I have subdivided the time up to the present day into cycles, that is, periods marked by the inception and culmination of developments which set them apart from those to follow.

THE FIRST CYCLE, 1815-1848

Prior to 1800 nothing of importance had been written either on the subject of fish or fishing in America. Early accounts by Kalm, Catesby, Mackenzie, Hennipen, Bartram, LaHontan and others mentioned the game and partially described various fish encountered in their travels. However, it remained for Samuel L. Mitchill and Constantine Samuel Rafinesque to furnish the impetus which marked the beginning of our knowledge of the fish existing in this country.

Perhaps the matter would have been delayed still further had it not been for the formation of the Literary and Philosophical Society of New York in 1814.

The object of the society was to encourage all laudable attempts to promote the useful arts, to diffuse knowledge and to enlighten the human mind.

Among the members can be found historical names of high distinction such as, Robert Fulton, Washington Irving, Gouveneiur Morris, and Thomas Jefferson. DeWitt Clinton, President of the American Academy of Arts, a man gifted with high intelligence and possessed with a superior education served as the first president. His *Introductory Discourse* delivered on May 4, 1814 is a work of high literary merit. He called attention to the needs of the rapidly growing country, mentioning that:

"The enterprising spirit which distinguishes our national character, has exhibited itself in every shape except that of a marked devotion to the interest of science . . .

"Our ichthyology has received little attention . . . The fish markets of New York, may be considered as the general deposite of every eatable, and every curious inhabitant of the waters. Everything that gratifies the appetite for food, or for novelty centers here.

"Notwithstanding this, it is an extraordinary fact, that until Dr. Mitchill (professor of Natural History in the University of New York) commenced his investigations, there was not a good catalogue of our fishes . . .

"That distinguished gentleman commenced his labours in November 18[illegible]; and he began at the very elements. Every sort of fish was procured, examined, and described. The specimen and the description were next compared with those in the best books; he frequently dissected the individuals which he had described, in order to make himself acquainted with the internal marks and characters, and sometimes he satisfied himself experimentally on their qualities as food.

"He also availed himself of various ichthyological assistance, and more especially of the *General Zoology* of Shaw, the *General History of Fishes*

Bloch, and the *Museum Ichthylogum* of Gronovius.

"The work of the Doctor is now ady for publication. It ought to be companied by engravings, taken om correct drawings; and as the exense of such an undertaking is enormus, the munificent patrons of science nd genius, and our enlighted public odies, ought to come forward and romote the publication of a work so teresting, undertaken and executed one who has done as much for the onour of American science and literure as any man living."

It may be that Clinton's lament eated some troubled consciences, at last when Mitchill's work was read fore the Society December 8, 1814, was decided to have it printed and propriately embellished by six enaved plates of fish. The following ar, 1815, Dr. Samuel L. Mitchill's per *The Fishes of New York*, tother with Clinton's *Introductory Disurse* were published in Volume I of e *Transactions of the Literary and hilosophical Society of New York.* his was the first ichthyological work the country.

The Fishes of New York describes 6 species. Among the common salt ater forms are the Sheep's head, under, porgy, weakfish, tautog, um, striped bass or rockfish, white rch, mackerel, herring, skate and ng ray; fresh water species include e brook trout, catfish, salmon, pike, nfish, yellow perch, sucker, chub, iner and brook minnow. All of these ecies retain Mitchill's name, a lastig monument to America's first oneer ichthyologist.

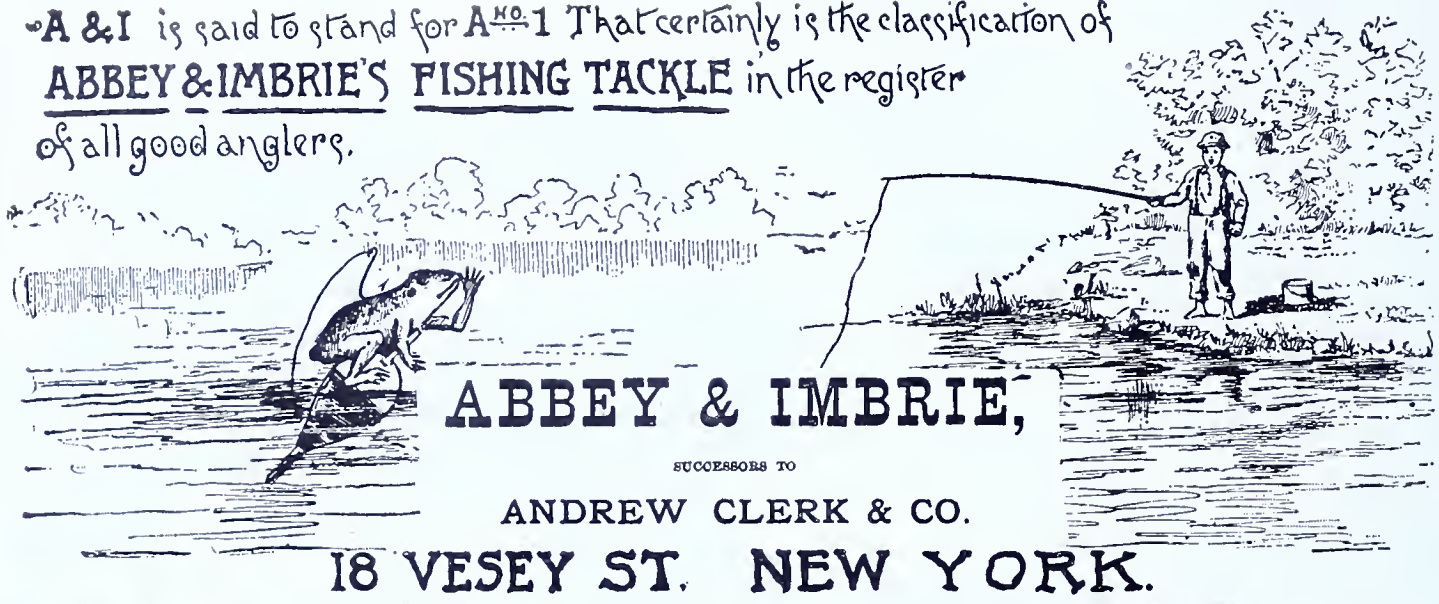
Earliest record of fly fishing in this old magazine fly fishermen were few and far between in those days when rods were fifteen or sixteen feet long, very delicate!

VOL. I.

BALTIMORE:
EDITED AND PUBLISHED BY J. S. SKINNER.

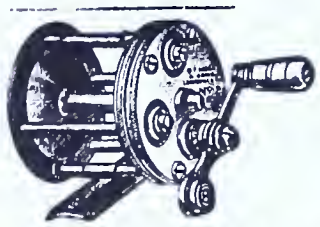
J. D. TOY, PRINTER.
1880.

The author playing a salmon on a New Brunswick river.



Bits of humor were injected into early angling ads.

1875



"ITS ACTION IS SUPERB."

The "MEEK" Reel

Has for 64 years been the highest type of Reel construction. The **Original Kentucky Reel being Established in 1835.** Perfection of material and constructive detail. Excelling in smoothness of action, design and finish any Reel ever produced. The Spiral Gear is a special "Meek" feature; they never wear out you know. Write for booklet and prices.

B. F. MEEK & SONS, LOUISVILLE, KY.

MILAM TRADE THE FRANKFORT KENTUCKY REEL MARK **REELS**

Standard for 60 years. First Award Chicago, 1893. First Award and Gold Medal, Bergen, Norway, 1898. Pleased to send Catalogue. **B. C. MILAM & SON, Frankfort, Ky.**

1899

Philadelphia Fishing Tackle House.

A. B. SHIPLEY & SON,

503 and 505 Commerce St., Philadelphia,

Manufacturers of fine Rent and Glued and Greenheart Bass and Trout Fly Rod and Tackle for Brook, River, and Sea Fishing.

FINE ROD MOUNTINGS.

Greenheart wood of all sizes on hand for Rod Makers. Highest Premium awarded by the Franklin Institute, 1874. mch9 6m

1875

In concluding the description of his fishes Mitchill mentions that:

"After all I have done on the subject of our ichthyology, I well know that many species remain unnoticed. Some of these I am acquainted with as a sportsman, although I have not as yet been able to examine them as a naturalist. Of others, I have the accounts stated to me by respectable observers, who are not zoologists. I cannot entertain a doubt that there are various kinds which I have neither seen nor heard of. I have reasons to believe that the *cyprinus* or carp family, the *esox* or pike, and the *salmo* or trout, will be found to comprehend a considerable number of new sorts . . .

"Important discoveries may be anticipated from the waters of the interior country, and especially from the lakes. For the person who shall be enabled to explore those regions, in a proper manner, there will be abundant employment, and a naturalist's reward."

In the same volume appears a letter from DeWitt Clinton to Samuel L. Mitchill entitled, *Some Remarks on the Fishes of the Western Waters of the State of New York.* Here appears the first known reference to black bass fishing in America. Clinton mentions that: "It affords fine amusement to trail for the black or Oswego bass when passing over Oneida Lake, Even when the boat is in full motion, they bite with avidity at a red rag tied to a hook."

Rafinesque, the second ichthyologist in the country was born in Galata, a suburb of Constantinople, in 1783, and lies in an unmarked grave in Ronaldson's cemetery, Ninth and Catherine Streets, Philadelphia. From boyhood onward he was passionately interested in anything pertaining to nature and, after abandoning the career of a merchant, settled down to a professorship at Transylvania University, Lexington, Kentucky, which position afforded him an excellent opportunity to study and record the descriptions of the plants and freshwater fishes in which he was so much interested.

His first paper on American freshwater fishes appeared in December, 1817, in the *American Monthly Magazine and Critical Review,* Vol. II, p. 120-121 entitled, *First Decade of New North American Fishes.*

Ichthyologia Ohioensis was first published in Lexington, Kentucky, in the *Western Review and Miscellaneous Magazine,* 1819-1820, and Rafinesque then had the matter arranged in book form and reprinted from the same type. He was well acquainted with Audubon, the celebrated ornithologist, who made him the butt of various cruel practical jokes, painting for him fish which never existed and which Rafinesque accepted and recorded in good faith. As an example, David Starr Jordan, in his *Fishes,* remarks about the imaginary garpike, *Litholepis adamantius,* which was painted for Rafinesque by the wonderful brush of Audubon.

That Refinesque had a penchant for recording new species none will deny —many present-day naturalists still have it—but, considering the scarcity of knowledge on the subject and the number of new species and genera r corded which still bear his name, o cannot help but feel that Rafinesq did a wonderful job on his *Ichthyolog Ohioensis.*

The explanation of America's failu to produce any angling literature up this time can be attributed to the fa that fishing was pursued, not as matter of sport, but rather as a mea of a livelihood. In carving their hom out of the wilderness the early settle had little time for sport fishing, th daily and winter supply being secur principally by the use of spears a nets.

But after the turn of the Nineteen Century, a new era began to devel in the country. Pressure of work w lightening, the frontier was gradua being pushed farther to the West, a in the East, especially, more time w available for sports and the bett things of life. Now and then a br topic on fishing appears in *The Ame can Farmer,* 1820-1834, and the ea issues of *The American Turf Regist and Sporting Magazine* which give o a picture of the equipment used.

Fly fishermen were few and far b tween. However, it was practiced some extent for in the 1829 issue The *American Turf Register and Spo ing Magazine* we have perhaps one the earliest records, which states th

"The rod used is fifteen or sixte feet long, very delicate, and thro from twenty to thirty feet of line, a the fisherman is most successful w the artificial fly. The color used April is black or dark brown; in M

lun or red hackle; in June and July, mitations of the millers or candle flies re found best."

The Cabinet of Natural History and Merican Rural Sports, 1830-1834, ontains *Angling, Bass Fishing in the Vest, Communications from Susque-anna County, Whitefish of the Lakes, An Excursion to Lake St. John, Direc-ions for Fishing for Pike,* and *The Honest Angler.*

Among the beautiful hand-colored thographs is one by Thomas Doughty epicting a lake trout and a brook rout.

The author of *Angling* mentions that: "The well-known methods of catch-ng fish consist of netting, snaring, obbing and angling with rod, hook nd line, and variety of baits, living, rtificial or dead; and in the United tates is not confined to particular laces, but in every river, creek, brook, ond or lake with which the country is so well provided; and the fish which claim the most attention to those who follow it as a sport, are the salmon, trout, rockfish, pike, chub, perch, cat-fish, eels, sunfish and roach, besides others which are peculiar to the lakes."

Directions are given for the taking of the above-mentioned species; and while the author encourages the use of the fly for trout and salmon, yet he states that fly fishing is not without its disadvantages and that bait fishing on the bottom is usually more successful.

The Cabinet of Natural History is an outstanding item in any angling library. It originally appeared in parts and was published by John and Thomas Doughty at 80 Walnut St., Philadelphia, Pa. The first number made its appearance in December, 1830, and an advertisement on the back

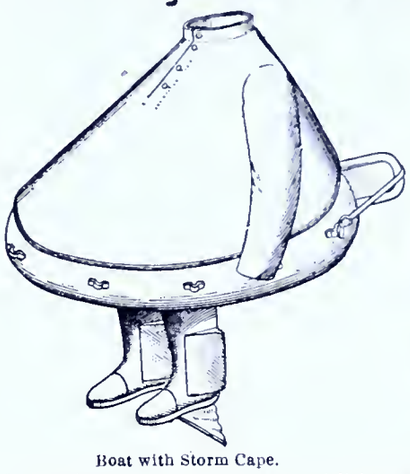
(*Turn to Page* 17)

Something new in rubber boats in 1894.

Anyone want a scalp with ears on?

Fishing tackle ads of the Eighties were precise and courteous.

The Layman Pneumatic Sporting Boa



Boat with Storm Cape.

Boat without Storm Cape.

Is just what every sportsman wants. A lighter, safer and more convenient boat than was ever befo: on the market. Weighs but twenty pounds. Is easily collapsed and folded into a small package an you may carry three or four of them under the seat of a buggy. Is absolutely safe in any waters. propelled by the feet, thus leaving the hands free to use gun or rod. Is made in four compartmen of the best rubber duck cloth; has loops for erecting a blind to shield you from the game: is quickl inflated, and in every way a success. Weight about 15 pounds. Send cash with orders to The Goodye: Rubber Co., or to

The AMERICAN RUBBER BOAT CO.

Send for circulars and price list. **487 Broadway, New York.**

1894

THE BEST RECREATION IN FLORIDA IS

TARPON FISHING

WE CAN EQUIP YOU WITH

Rods, Reels, Lines, Hooks

and all that is needed for this sport.

Our special one-piece Bamboo Tarpon Rod at $6.00 eacl

AND OUR

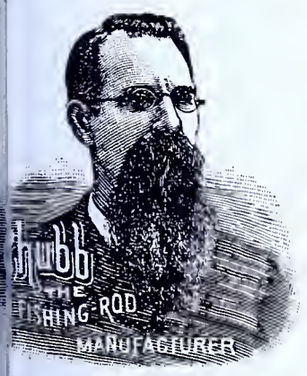
200-yard 18 Thread Neverbreak Linen Tarpon Line a $3.75 each have been pronounced perfect by some of the most experienced tarpon anglers.

SEND FOR CATALOGUE.

DAME, STODDARD & KENDALI

374 Washington St., Boston, Mass.

1893



ob Eight-Strip Split Bamboo Rods are pro- Anglers to be the "King of Rods;" they are for quality of material, workmanship, balance. Printed guarantee goes with each warrants them for one year. Rods are put gant case.

rice each, $15.00.

ns, weights and styles are described in our Catalogue of Fishing Tackle for 1892. The lso contains elegant Lithographic Plates of oo and Lancewood Rods, and over 100 varie-icial Flies in colors, and describes, illustrates prices of Fishing Tackle used by anglers of

or Catalogue. This may be deducted from or goods amounting to One Dollar or more, Coupon which accompanies Catalogue.

. CHUBB ROD CO.,

Post Mills, Vt.

1889

ES RATCLIFFE,

Rochester, New York,

facturer of Flies.

otions. Trout and Bass Flies, suitable s of Northern New York and Pennsyl-alty. Orders solicited and will receive ion.

1874

"THE EAGLE CLAW."

The best Trap in the World for catching

FISH, ANIMALS & GAME.

One bait will catch Twenty Fish.

No. 1, for ordinary fishing, small game, &c. 35c. No. 2, for large fish, mink, musk-rats, &c. 75c.

Sent by mail. **STENT & CO.,**

Sole Mfrs., 132 Nassau St, New-York.

gue of useful novelties and mention this paper.

1878

Scalp for Sale.

A FIRST CLASS COMANCHE Scalp, taken in Texas; ears on; all round cut; extra long hair. Inquire at Office of Forest and Stream.

D. HODGMAN & CO.,

27 MAIDEN LANE, NEW YORK,

LARGEST ASSORTMENT

—OF—

India Rubber Goods

COMPRISING

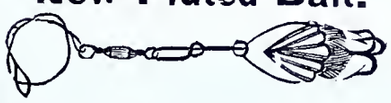
Rubber Trouting Pants,
Fishing Stockings,
Camp Blankets, etc.

Complete Sporting & Camping Outfit.

1873

SKINNER'S

New Fluted Bait.



The best bait used for Bass and Pickerel Fishing Bass size, 75 cents; Pickerel size, $1 each, by mail post-paid, on receipt of price. Eagle Claw, for catch-ing Fish and Game, samples by mail, 35 and 75 cents. Send stamp for illustrated price list of Fishing Tackle and Sporting Goods,

FISH & SIMPSON,

132 NASSAU ST., NEW YORK.

1877

THE STRONG BLACK BASS ROD--IN TWO PIECES.

The undersigned is making a rod for Black Ba fishing, to which the attention of anglers is calle It is made from drawings and suggestions furnished by the well-known expert, Dr. J. A. Henshall, of Ky., who says of it: "It is the finest rod made, and just 'the thing' for the best black bass angiers." The two-joint principle, applied to rods of this style and class, Dr. Henshall considers **by far the best.** The butt of the STRONG ROD is of the choicest second-growth ash, and the top-joint of Cuba selected lancewood. The rod is finished with solid German silver mountings; reel bands above the hand, and standing guides throughout. Length, 8ft., to 8ft. 6in.; weight, 8 ozs. to 9 ozs. The finish of the STRONG ROD is equal to any rod made. It is warranted in every respect. Price complete, as above, $10; price with extra top joint, $13 Address

F. A. STRONG, Honesdale, Pa.

Rods of all kinds made to order. Send for price list. je27 tf

1881

PLEY BETHABARA ROD WITHOUT COST

ion. Send us your business card, and we will send to any responsible person one of our Speciall an Silver Mounted BETHABARA Wood Rods, for either Fly, Bait or Sea Fishing. If you it, or it is not the best rod you ever handled, send it back. If it pleases you, send us your guarantee the rod for a year. Price, **$15 00** each.

BETHABARA rod gave me such satisfaction that I want you to change these 8 Split s into BETHABARA."—A verdict after a season's use by an experienced fisherman.

MALCOLM A. SHIPLEY, Manufacturer,

908 Chestnut St., Philadelphia, Pa.

1900

The *Witching* Hour

By N. R. Casillo

Ghosts, zombies and goblins cavort at midnight, . . . also trout!

"IT'S AT LEAST as long as this," I indicated, appraising the eighteen inches that I had drawn out on my pocket tape measure.

"Are you sure?" countered George, looking in turn from the tape to the thin trickle of a stream passing under the bridge upon which we stood.

I ignored his query. "I believe that he was purposely dumped into this stream to give some one a thrill," I suggested. "Furthermore," I went on, "this baby is smart."

"Well, we can get him, and we'll stay here all night if we have to," declared my companion.

Knowing only too well of George's penchant for nocturnal angling, I suggested that we first drive to Mercer for supper. "We can return after dark," I assured him.

So, while the all-important victuals are being stowed let's backtrack sufficiently in this narrative to account for the foregoing discourse

Like a great many other streams in our Commonwealth, Pine Run is what might aptly be classified as "opening day" water. It's regularly stocked and local anglers give it but a brief play, knowing full well that its closeness to heavily populated centers soon strips it of its stocked denizens.

Then, too, it's a small run, containing scarcely enough water to get so mu as a second glance from the avera trouter. But what the early tro fisher doesn't know is that later in t season, even as late as mid-summ the tiny rivulet sports some fairly de pools of a temperature capable f carrying over fish from season to se son.

Obviously, all of the fish carried ov in this manner do not survive the a nual opening onslaughts. But some f do, and therein is the crux to so good fishing if you're in the know.

However, upon enquiry, a friend f mine who supposedly knows t stream, answered: "It's fair the fi few days. Later on there's nothing b a lot of pesky chubs and minnies."

Now, let's scrutinize this stream retracing the activities of that aft noon.

Pine Run is located between t towns of Mercer and Blacktown Mercer County. For a considera distance after crossing the blackt highway connecting the two towns, t leisurely meanders through rich p ture land; skirting barns, barnyar and one or two farm houses.

At the site of an ancient dam at t rear of the first house there is a p that causes one's heart to tighten w anticipation. Approaching stealthily I swung my bucktail over a crumbl cement abutment and out on to t limpid surface.

Because of the abutment back f which I crouched, I could not see wh transpired, but I had scarcely work the lure more than a foot when son thing nailed it. I smiled in satisfacti My surmise was correct.

After a couple of spirited dashes I worked my quarry around to whe I could see it. However, my premat elation was doomed to disappointme Instead of the expected trout the vict was a medium size fallfish.

"Anyway, the place looks good," I muttered as I liberated the fish a went on down into the alders.

For the next quarter of a mile so the water was ridiculously shall so I paused for a smoke before proaching the pool that I spied un a big elm. And besides, a bit of pause, a smoke and pleasant thoug are food for the soul.

My first cast into the pool netted a fish, a fine eleven-inch smallmou After slipping him back into the wa I made a note of it and then went

The hollow through which the now wound was singularly park-li Small hemlocks and large decidu trees were sparsely scattered over rich verdure of the evenly cropp grass. On ahead I could see tall, so berly grouped hemlocks. The amp theater-like hollow rapidly narrow between increasingly higher banks

To the true angler, a stream holds things of interest aside from the fish it contains.

The gorge, for that is what it was, as thickly filled with fairly large hemlocks. The run quickened its pace and now tumbled breathlessly over the boulders that filled its bed.

Rainbow water if there ever was my I thought as I carefully approached the first frothy stretch. The bucktail glided through the intricacies of a tight little channel before tumbling into a foamy pool like a spent minnow. I would have been keenly disappointed had there followed no action.

Zing! In the somber light I had seen nothing. The fish hit and my line tightened. The flashy return to its lair was simply a continuation of his swift approach.

In a few moments I reached into the dam with my net and had him, a fine, ten-inch rainbow; the finely turned body, small aristocratic head and rainbow hall mark filling me with genuine satisfaction. That's fishing—anticipation, thrilling excitement and a huge satisfaction. That is if everything sticks according to the book. If it doesn't, well, you still have the anticipation.

The water poured on, playing hide-and-seek among the swelter of rocks. The hemlocks huddled close. I fished on.

I had long since left my companion far up stream and I encountered no one. The stream was new to me and delightful at every turn. I went on oblivious of what was in store for me.

In due time I cleared the trees and stepped out into a sunlit pasture. The gently sloping green contours were as refreshing as a minty spring night.

Pine Run meanders through a park-like pasture sprinkled generously with violets and bluets.

Fine May weather and a good stream is a combination hard to beat.

Pine Run again meandered, twisting this way and that among the beds of bluets and violets, seemingly reluctant to leave the spring beauty through which it passed.

High up on the gentle slope before me sprawled a house and barn. Ahead were a few sycamores and hemlocks, the latter small and regular, their contours curiously artificial.

The stream straightened once again. In a bit of disorder it hurried on lifting the flowery hem of its skirt. At about the middle of the pasture it narrowed to pass between a sycamore and a hemlock. A dead tree trunk slanted from the pool located there.

"Boy, there should be one there," I muttered, approaching the spot from the upstream side of the down tree.

Carefully I waded into the water and peered into that part of the pool visible on my side of the partially submerged log.

Numbers of horned dace and fallfish cavorted about the algae covered limbs of the snag. A short cast placed my small spinner-bucktail combination near the opposite bank. I retrieved slowly.

When my lure approached so close to the fallen tree as to be obscured, something struck. The fervid antics of my quarry were a dead giveaway. Soon I lifted a hideously tubercled dace from its element and released it. Never before had I observed a specimen so completely covered with nuptial tubercles.

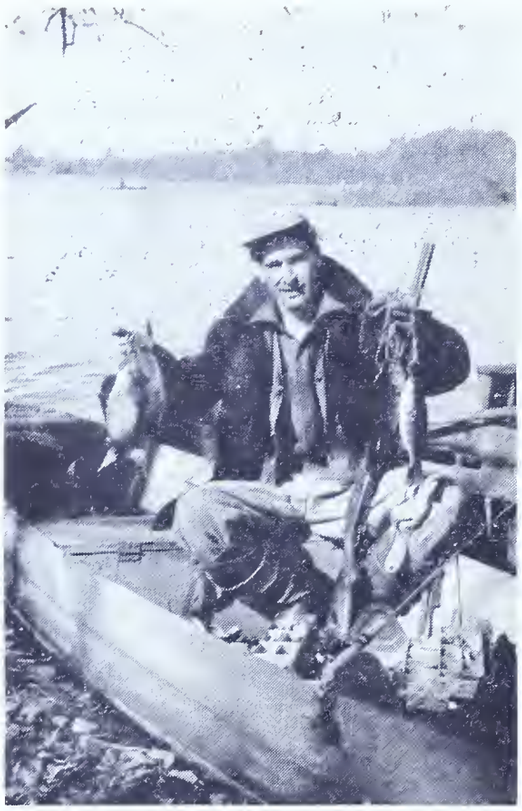
A short, vivid streak of emerald cutting through the paler grasses on the opposite bank disclosed the course of a spring run; the streak terminating at the water's edge between the hemlock and the upturned roots of the fallen tree. I leaned forward to better see the character of the bed at that point.

There is no emotion akin to the one that an angler experiences when he spots a giant specimen of the quarry he seeks. Indeed, the sensation is the result of a combination of emotions.

Especially poignant are they when one is astream alone, fully equipped

(*Turn to Page* 20)

In the woods the stream picked up speed and I eagerly anticipated angling action.



FISH AND FEATHERS makes a nice double for outdoor writer, Don Shiner on Spring Lake. Shooting ducks and catching bass on same trip is good sport late in season.

"Try These Streamer Flies"

By Don Shiner

Perhaps you won't agree on the best half dozen streamers for Pennsylvania's trout waters as named in this article but both expert and beginner should give them a close look!

SOME time ago I was asked to list a half dozen streamer flies that were exceptionally good ones for the streams in Pennsylvania. Naturally this took quite some thought, but I managed to reduce the many streamer flies that are known to the six that are listed in this article. Perhaps you may have others that could be added to the list but these six are good ones and will take trout and bass constantly even on those streams that are over-worked by the season's end.

The trout and bass fishermen use streamers quite often in Pennsylvania and many prefer them to wet or dry flies. Many of the larger trout are caught on this type of fly. These large trout are absolutely blind to a small wet or dry fly, but they will generally go for a streamer late in the evening. Fished properly, day in and day out the bucktail and streamer are the most consistent producers of anything made of fur and feathers.

Big fish, for the most part, feed on smaller fish. A big trout or bass will occasionally rise to a dry fly, but it takes a lot of them to make a square meal, so when they're really hungry, give them a streamer fly, one that represents a minnow, and they will strike at it every time. You can even take those big ones when they aren't hungry at all. Just cast a number of times in their territory, make the streamer fly dart around like some strange little fish, and those big ones will bolt after it and strike with enough punch to tear it to pieces. You have seen this happen with live minnows, so you can understand that a streamer fly will be treated the same way.

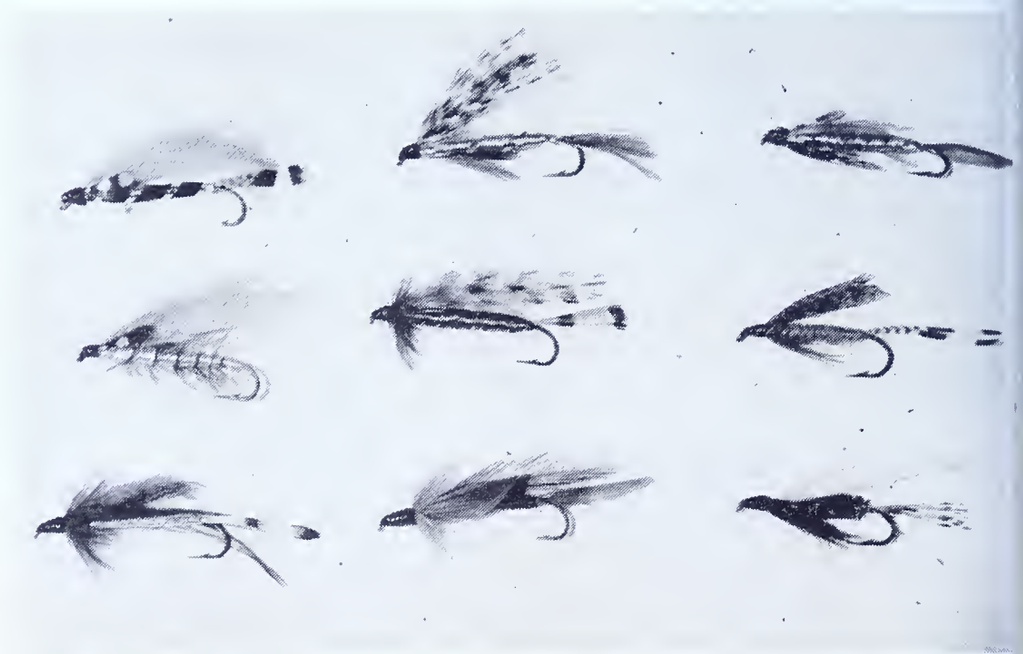
These six streamers are good ones for the streams of Pennsylvania and for many anglers are standard standby patterns. They are popular ones, many you have heard about before and some undoubtedly have all six in their tackle box already.

In many parts of Pennsylvania, one of the popular streamer flies is the "Black-Nose-Dace," which was first tied by Art Flick. It is one of the finest streamers made to represent the dace and chub minnow. It is exceptionally well liked by trout and especially those upward of a foot in length. These larger ones are minnow feeders and seldom will remain motionless when a 'Black-Nose-Dace' is darted about in front of them.

Flick suggests the hook size 4, 6, 8 or 10 and dresses it as follows: Body—Medium silver tinsel, Tag—A short piece of red wool yarn, Hair wing—Natural polar bear, black bear or black skunk, and brown bucktail tied on top.

Flick suggests further that the larger sizes—4 and 6—be used in the early spring, but when the water returns to normal height, the sizes 8 and 10 are better. The wings of the different materials are tied on the fly so that it is in layers and the final appearance is a bucktail which has a narrow black strip through the center and this is as near a perfect imitation of the dace and chub minnow as has been tied by any fly tier.

The second streamer that is selected for this list, and one that is well known and well liked by all who have used it, is the "Mickey Finn," first tied by John Alden Knight of Williamsport,



Fly tiers offer hundreds of streamer fly patterns, can let their materials and imaginations run wild. Many patterns are worthless in Keystone waters but many take big fish when they won't rise for a dry or move to a small wet fly. Carry a good assortment in your tackle box and be certain to include the six listed in this article.

Here's the "Scaled Shiner" streamer fly. Note criss-cross windings on body to give appearance of scales, imitates the chub minnow.

ll. This is truely a fine streamer for bass and many many anglers report catching nice strings of bass when using it. As undoubtedly you realize, the colors red and yellow are high on the sensitive side of the color spectrum of bass. Scientific tests have shown that these colors are very appealing to bass, both normal dyes and the new gantron shades.

This fly is tied with a tinsel body and alternate bunches of yellow and red bucktail. Here again the red bucktail between the two layers of yellow give a striped effect, something which is always well to have in a pattern.

Number three on the list is the "Gray Ghost" streamer. There are few stores in Pennsylvania that sell fishing tackle that do not stock this fly for it is a highly praised streamer in every section of this state. This is one of my very favorite streamers, for various reasons, one being that it was the fly that finally captured a large brown trout from the Big Wapwallopen Creek. This creek isn't too widely known except for the immediate area of the town by the same name in Pennsylvania, located in Luzerne County. It holds a fair amount of trout and is a very beautiful stream, having three large falls and the scenery about it is magnificent. This brown trout which I mentioned that I had taken on the Gray Ghost streamer was in a pool that was known for some mighty good dry fly fishing for many seasons. Then it gradually tapered off to the point where hardly a trout could be caught. Late one evening I decided to give this particular pool another try and using the Gray Ghost streamer, the first cast netted the big brown trout. It had undoubtedly routed the smaller fish from the pool or devoured them. Once he was removed, the pool soon became a good section to fish with dry flies and numerous trout measuring a foot or more in length could be taken again.

This is not the only experience I have had with this particular streamer, however, its discussion here will end by saying that it is another of the top streamer patterns that should be carried and used by all those who angle in the streams of Pennsylvania.

The Gray Ghost is tied with an Orange silk floss body, ribbed with fine flat silver tinsel; Check—Silver pheasant and Jungle cock eye; Hackle—Golden Pheasant tipped over white bucktail, over thick peacock herl; Wings—6 blue-gray or smokey gray hackles, tied streamer. This fly was first tied by Bert Quimby and it a excellent pattern to use in any stream throughout the East.

The fourth streamer is the "Colonel Fuller." Like the Mickey Finn, the Colonel Fuller contains yellow and reds, good colors for bass, at least Pennsylvania bass. I have a friend who is a tackle dealer in the little town of Bloomsburg, Pa., and he has said to me that he has sold more than four or five gross of this pattern fly last year! That's a lot of flies for one pattern! He especially recommends it for bass. Generally every Wednesday afternoon he closes the store and journeys to Meshoppen, a town above Wilkes-Barre on the North Branch of the Susquehanna River. This area is, without a doubt, one of the leading small-mouth bass sections of the state and has produced many fine size bass each year. It is rare indeed when this tackle dealer of Bloomsburg and his friends do not arrive home with tales of how the bass were hitting!

I have had good luck too with this pattern in this area, as well as in various other streams and lakes. I might mention that this particular pattern of Colonel Fuller is tied with a yellow

Fished properly, day in and out, the bucktail and streamer are most consistent producers in fur and feather line! This bucktail has body of tinsel chenile, a new material recently developed by fly tiers, makes a sparkling body, attracts all game fish.

chenille body and then a yellow hackle feather tied palmer over it. It has a red tail, red throat and white hackle wings.

The fifth pattern of streamer flies that I like best is one of my own design. It's named the "Scaled Shiner" and is a fair imitation of a dace or chub minnow. The part that makes this fly so effective is that the body is made of loosely wound silk floss and the tying thread is criss-crossed over it giving the appearance of scales. The thread should be pulled rather tightly so that it sinks slightly into the soft silk floss body.

This streamer fly will take both trout and bass and even when it's tied on a ring-eyed hook and placed behind a spinner it is an exceptionally good one. It is not a difficult fly to tie and requires few materials. The tail is made of black and white hackle

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A streamer dropped in the tail of this pool worked up through the riffle will invariably produce a terrific strike. Streamer flies work in pools like this one in Phillips' Creek.

"A Spinning We Will Go"

By Paul Brown

"A spinning we will go
A spinning we will go
Tan Tivy-Tan Tivy-Tan Tivy
A spinning we will go."

YOU will have to excuse the liberties I have taken with the words from the well-known "Hunting Song." The title fits perfectly to the music. No need to sing the "Blues" if you are one of the many sportsmen who have recently taken up the art of "Thread Line" or "Spin Fishing." It's new, exciting and different, in fact, it's a sportier method of taking game fish of all types on lighter tackle. This article was written with the idea of helping you to select the proper equipment for the work it's intended to perform.

I have referred to the "Blues" above, for the following reasons. There are no back lashes, the bugaboo of all casters, no thumbing the reel, no line under the feet or in your hand as with a fly rod—So no "Blues" to sing.

I would like to first discuss the rod, there are many types, makes and materials available. I personally prefer bamboo. Rods are of 6 to 7 feet, with the inbetween sizes. Weights are of 4¼ ounces up. A 7 foot job of 4½ ounces handles all lures nicely of 1/6 oz. to ½ oz. Of course, one must use the proper weight monofil line to use properly the various weight lures for the kind of fish one is after for perfect balance. The "South Bend" and "Orvis" Rods of 6 strip constructions are excellent. "Uslan" has a 5 stripper. The latter two are excellent in material and workmanship. The "South Bend" is real good too, but those guides they have put on are not the proper ones. I changed these to the right ones and now their rod is a honey. (Note: South Bend Co.—change those guides to the right ones, take those casting rod guides off, put a ⅞ inch large butt guide on and see that the stirrups are higher and that the guides have the proper taper to the tip.) The price of above rods are from $20 to $50. Take your choice. The Fibre glass rods of the brown color that are tubular are real good—will not take a set. I have made up over two dozen for customers, and no complaints yet. They have a two year guarantee.

Reels: There are several good spinning reels on the market. The best of them are listed in various price ranges from $22.50 to $70.00 for the salt water job. The Bache Brown Master reel is the best of the American makes. The Mitchell of France; the Ambidex of England; The Record of Switzerland. Since spin fishing originated over there, they are way ahead of us in lures, lines and reels. I have the Mitchell, it comes with two spools, and is really a quick change job, when changing from one weight line to another of lighter or heavier weight. The tension when set, stays the same after being set on this reel. All reels are of lefthand reeling except the Ambidex which has a removable handle to change to right hand reeling. Don't say you can't use the lefthand reeling, it's simple, believe me, ten minutes will convince you that you can. The secret of holding heavy fish is in the reel. You set the tension on the break for the weight line you happen to be using. There is also an adjustment so that your handle will not turn after you have brought the fish to net. This is an excellent feature while trolling with plugs. When a fish hits the plug it hooks itself. In October of this year, I caught 5 to 6 bass that were 2½ to 4 lbs. everyday on the Yellow and Orange Flatfish (X-4-X-5). These are spin rod lures.

Lines—The best of the Monofil (Not American Nylon) line comes from France. The color is a greenish-gray color. The Tortue (Turtle Brand) and the Water Queen are good. They are soft and pliable. American nylon is too stiff and when dry falls off the spool in coils, it is abnominable to use. Weight of the imported Monofil is fro 2 pounds to 10 pounds; 2 to 4 poun for trout; 4 to 8 for Bass and Picker The weight line of course that you u depends on where you are fishing. Canadian work, I'd use 8 providi there are no Muskies around, in th case, change to 18 pound test braid nylon of best grade. Your reel a line must work as a team for be results. While fishing at Mounta Lake House, I was lucky to tie in a female "pic" of 6¾ pounds, 32 inches long on a 4 test line, using Bass master plug. (No. 2532).

Lures—The best of these come fro France and Switzerland, England al but very few are reaching here. Th were hit hard in the past war, skill artisans in the tackle field were eith killed or moved to other jobs to he England get on its feet. All the lur I use are from the first two countri except the plugs that are your a my favorites. I list foreign first. Th will take trout, bass and pickerel.

C. P. Swing—France — weight — ⅛, ¼ ounces.

Blades—Silver or Gold.

Flirt — Swiss — weight — ⅙, ⅛, ounces.

Blades—Silver or Gold.

Voble—French—weight—⅙, ⅛, ounces.

Voble, Ruble—French—weight — ⅛, ¼ ounces.

Blades—Silver or Gold.

Hornet—American—colored.

Colored Spin Fish—Similar to En land Devons.

Devons—English—Gold Body—S ver Body.

1 to 2½ inche sizes.

Rhoades—Made in Pa. New and n a line twister—3 colors ⅙ ounce.

Note: Remove one treble hook Devons, State law of 3 hooks or burred hooks.

Plugs—Use your favorite plugs

ı oz. to ½ oz. The smaller the better.

Silver Flash and Pikie Scale—ɔinted and straight; ¼ oz. weight—'hat, no red and white—The last plug as been worked to death, but carry it ıy way—never can tell when you'll eed it.

Flatfish-F-6-F-7 for trout all colors 7).

Flatfish-X-4-X-5 Yellow-Orange-rog and Silver Metalic.

Spoons—Johnson Minnows—No. 1 ɔr trout. No. 2 for Bass Pic's. Gold-ilver-Black—all with Pork Rind, Kingfisher Deluxe No. 6375 is best).

Daredevlets—Red and White, Black ıd White, Green and White. (Get the enuine.)

Bass Master—No. 1543, 1532—semi ırface, No. 2543, 2532—deep.

These are new plugs and I highly ecommend them. They are the most atural of all plugs I have for action ıd fish taking qualities.

Jitterbug—All black—⅝ oz.—The nly plug I use this heavy—the ⅜ oz. a slow sinker. I don't like it. Make ıe of all red cedar, dope up with the ew Fire Lacquer in Green—it's good : use just plain.

Snaps— No. 12, 14—The smaller the etter with and without barrel swivels -Have both. Barrel type for spinners.

Streamers—Here is a type of lure ıat the fisherman who purchases ıem is made a sucker. I tie flies my-elf, and I have never seen so many nitations of what the original pattern alled for, by that I mean, that this ype of lure, I have found green che-ille subbed for peacock herl (ex-mple Royal Coachman body). Wings ɔo long, hooks of poor quality but nce yours must be weighted, your est bet is to have your local tier tie ıem up for you, and have the proper ze wiggle disc put on, they sure iggle without any help from you out-de of the reeling. The hooks should e ringed eyed 8, 6, 4, 2, or 4x to 6x ɔng. These will cost $1.25 each if tied p right. You use twice the amount f material and to weight (concealed ı body) takes time. So don't beef bout price for a good job tied custom.

Floats—Plastic float has small cap ɔ open to fill with water to use with ry or wet flies. For bait—use the nallest red and white with the push ı type snap.

Note: Use 12″ of 8-10 nylon on end f monofil for fish with teeth like pics."

Use Wire trace for Musky's.

Don't change your present fly rod ɔ a spinning rod. Get the right rod ıade for the purpose. I use my Spin .od for flies plugs, etc.

Keep your present equipment until our proficient in its use and only if ou intend to use that rod exclusively. 'ou can be just as accurate with the

A BASS THAT COULDN'T KEEP HIS BIGMOUTH SHUT! And, Mrs. Carolyn Hibschman, Hershey, caught him a 23¼-incher, at Stracks Dam near Myerstown while her husband went hunting last Fall. He came home empty handed. Mrs. Hibschman looks mighty happy. Mr. Bass doesn't!

—A Daily News photo

Spin Rod with plugs as you were with the casting rod and with less trouble. All types of bait can be used on this rod. Snell hooks to your Monofil—buy loose hooks (100) English or Swedish; Loop on connection of line to snelled hook makes a wake in water.

You can use small spinners ahead of your streamers as an attraction.

Don't fool with your spinning reel to see what makes it tick; take it to a reliable repair shop or send to manufacturer.

Put Rod and Reel in safe place when not in use.

Don't throw your lures where a man is flyfishing, wait till he leaves and don't try to throw a mile, I know they cost $.55 and better, but the short cast is preferred over distance.

Use all the small artificials you can, you don't need bait, save the minnows for fish food, release all small fish carefully and take only half of what the state says is legal, leave some for tomorrow.

Belonging to a Sportsmen's Organization doesn't mean you're a gentleman and sportsman—There are heels everywhere.

Since I do not care for bait fishing I am listing methods I have tried out only to see the results.

Now for some incidents where under actual fishing conditions I used only the spinning rod for all work from sucker fishing to bass and pickerel (April 1st to November 20th). In sucker fishing I used a golden grub worm from California on No. 12 English dry hooks. I put a knot on the end of the monofil on which I squeezed a No. 7 Buck shot. I snelled the hooks on 8″ of nylon of 3x diameter, which I secured to my line with no loops the suckers bit good on these grub. The average catch was 3 to one against the conventional tackle used. The monofil was No. 2 test.

In trout fishing I used only artificials that included wet, dry, and streamer flies, plus those imported spinners. Take the Broadhead up at Penn Hill tavern, what a stream, all artificials and no bait fisherman, what a pleasure to take those nice fish (only 6 per day) and to release all but a few real large keepers, without moving from one spot on the creek. I took 7 nice trout, all were nice fish of 12 to 22 ins. I kept 3 that day after investigating the creek down to the end of the assigned limits. It was like fishing Canada or a hatchery. They hit everything one threw at them that day. I still cherish the 2 dry flies I have left from that trip, one a light Cahill the other a Fan Coachman. They are well chewed up, believe me.

My buddy and I tried to get a boat at White Pond in Jersey, no soap, but

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PLUG-HAPPY GRANDPAPPY

by Thad Bukowski

Old Grandpap might be gettin' old and fussy but when he's a bass, he's cranky, too!

I looked seasick when I landed that grandpappy but I felt better than I looked with that lunker safely strung.

"Let's go after those bass," Chuck said one afternoon, after I had mentioned a favorite local lake at which I was unusually successful. Chuck Balik had become a close friend of mine of recent days. As we were both avid Isaac Waltons our interests naturally and immediately merged.

We packed our gear on a mild afternoon and sped for the lake. A fain breeze cooled our faces and scattered clouds overhung the sky. "It looks like a good day," I said as we travelled along. "It better be," Chuck answered, "I haven't had a good day in a long while. You say there are nice bass in this place," he added wistfully "I sure do hope they're hitting."

At the lake I was quite lackadaisical. It took me all of twenty minutes precious time to locate some three feet of eight pound leader, to which I attached a tiny snap and a yellow river runt.

"I got one on this plug the other day," I mentioned in explanation "Struck when I was lifting the plug out of the water and I flipped him into the boat as I pulled up to cast again He wasn't big, though," I continued thoughtfully. "Maybe we'll get a big one today. I really have a hunch we will."

By this time we were pulling off shore and heading for a choice spot in the deep lake. The water was almost crystal clear and we could see to a depth of ten or twelve feet. Chuck stroked the oars and I made my first cast. There was an immediate unexpected swirl at the plug. A small bass hit and was quickly landed in the first fresh stir of excitement. We were looking for lunkers, though so we flipped the ten inch largemouth back into the lake.

"Hey, this is interesting," Chuck immediately remarked. "Think I'll do a little casting myself." With this we let the boat drift as my buddy started getting his gear into action.

Meanwhile, I continued to cast. Almost immediately there was another strike. Another small bass had hit the yellow river runt and was heading for the boat. It broke water and flipped the plug just before we got a landing net underneath it.

Chuck was becoming more thumbs "We'll have to come here more often," he called excitedly, not realizing that this was turning out to be the best day of the 1950 season, at this particular Lawrence County lake. I nodded my head. "Anytime anyone wants to go fishing, I'm always willing," I said.

Our boat had drifted to shore. We headed out again, intending to stop quite a distance out in the lake, as we had originally planned, so we threw our plugs in, let out line, and began

troll. To get depth, I changed to old Heddon Spook which had guished in my tackle box. It's zery spinners shone brightly as I pped it into the water.

My spook hadn't travelled twenty rds when I yelled, "Stop the boat! p the boat! I've got a big one!"

There were more sharp exclamations my partner. We both added extra tion and unusual gyration to our ions as we tried to stop the boat l play the bass. Sure enough it was grandpappy. But how to land it was other pressing problem, especially in rapidly moving boat. As the boat wed down I tried to hold the line t and yet concede some of it to obnoxious critter. The situation ved too awkward, however. Rising the surface, still about twenty feet ay from us, that big bass kissed the g goodbye and headed back for the p.

slowly and dejectedly continued to l in my line. My dejection vanished a minute, though, when I spied other lunker eyeing my plug dtly to the boat.

"Drop the anchor," I called to my boy s time workhorse partner. He comed, and as the boat settled itself, I ain cast out the plug. Slowly I reeled in my minds eye watching the spinrs working. Nothing happened for ons of split seconds, and then there s a sharp jolt. The rod bent sharply th the violent revolt of another ker wanting to join his previous tunate buddy. This time all odds med to be with me. The big largeuth surfaced wildly and still reined on the line. I reeled in, cautisly trying to head off another lunge t that four pounder couldn't be pped. With a final desperate leap the air he freed himself and plunged a more friendly habitat while I ply wound in my line.

"Whew!" I remarked to my comion. "They're sure hungry, but w're we going to land one?"

"Oh, we'll get 'em," Chuck optimistlly replied. "It's still early."

Sure enough it wasn't later than r in the afternoon of a mild August y, with clouds hiding the sun most the time, and a southwest wind pling the waters.

"Let's have a sandwich," I mentined, after a few more casts with my ook netted nothing. "I'm tired and I nk those big old bass are too."

"Okay," my friend replied, so we h began demolishing a ham with stard on rye. The first few bites de me feel much better. I was ready get at my tackle again.

"I'm going to change plugs," I said, d with that I chose a gray-finish, dium-deep-running shad to further tempt the bass. I took another bite on my sandwich, and cast far out in the direction in which the other two had hit. I was setting the sandwich on the boat seat in front of me when that plug-happy grandpappy, or one of his brothers, almost jolted me out of my seat. I hooked him, and watched excitedly as he immediately took a sky flip, spraying the water around him. This time I would not be denied. I matched my bag of tricks with his. After playing him for some anxious moments, ever closer to the boat, we managed to net the violently splashing wide-mouthed lunker. I heaved a sigh of relief and felt a little seasick, but then I felt better when I got that lunker safely strung, with the gray shad still in his gaping jaws.

"By golly, we finally got him," I exclaimed.

"Sure did," Chuck replied, "now's my turn."

It was about five o'clock and we were satisfied to pull up anchor and move along the shore to other parts of the lake, plugging as we moved.

The bass seemed to be famished. As soon as we had moved along the shoreline another fat largemouth hit Chuck's plug just as it touched the water not three feet off shore and skittered, flip flopping wildly as my companion coaxed it toward the boat.

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With the bass showing a preference for wobbling wooden gadgets, Chuck Balik decided to get into the swing of things with an artificial.

An ideal arrangement for comfort and safety in fishing from a boat is for one man to fish while the other handles the boat. The fishing partners can take turns at the oars, so both will have an equal fishing time.

Common Sense and Boats

By Dick Fortney

BOATS are the handiest vehicles a fisherman can use. They enable him to cover a lot of water with a minimum of physical exertion. They take him into water he could not fish while wading. They allow him to fish in comfort and with ease. They are essential to certain types of fishing—trolling for example.

But boats do not have brains.

So the angler who fishes from a boat must use his own common sense and good judgment if he is to get the most pleasure out of his angling and, even more important, if he is to avoid a ducking in cold water or possibly even a worse fate.

Boats can ride safely over a lot of pretty rough water with absolutely no danger if they are handled properly. I've ridden across lakes in 16-foot boats with whitecaps curling a foot and a half high without getting a drop of water on my person. I've also enjoyed a day fishing in a lake with a canoe when the water was wind-whipped and nasty without any close calls at all.

Whether the fishing craft is an old-fashioned flat-bottom rowboat, a sleek cedar strip job with a powerful outboard motor, or a canoe, it will carry the fisherman safely if he does his part.

Because the virtue of boat safety can be explained better by listing what not to do in a boat, rather than to suggest what to do, here are some important "don'ts" for the angler to remember.

Don't fish with more than two persons in a boat, unless the third person is in the craft only to row it or to run the motor. Three men fishing from one boat are almost certain to hook each other before the day is ended, particularly if the wind is blowing.

Don't stand up in a boat to fish. Any angler worth his salt can master the art of using either a fly rod or a casting rod while seated. Remember, the boat gets around in the water, and when fishing from a boat casts need not be as long as those from shore or a stationary base.

Don't tear around at high speed, even if you are proud of your outboard motor, in waters with which you are not familiar. A fast-moving boat will upset in a twinkling if it strikes submerged rock or some other obstru tion in the water.

Don't endanger the lives of oth fishermen in other boats. If you a using a motor, keep a good distan from anchored boats and drifti canoes, and always throttle down t motor when passing them.

Don't move around in a canoe. I' spent many hours with a guide and fishing companion in a small can and nobody ever even came close getting wet. But the guide sat solid on the stern seat of the canoe, my co panion sat in the bow seat, and I s on the floor of the canoe in the midd My companion and I have landed b scrappy fish under such conditions, b we never forgot we were in a can and we behaved accordingly.

Don't try to do any fancy movi in a boat on a windy river or lak Don't try to run the boat parallel the waves. Instead, head directly in the wind—and you'll find that yo craft will ride from wave to wave wit out the slightest trouble.

Don't abuse your boat, even thou you have a good motor. Don't try force it through rapids that are t swift and too rough. It's far bett and safer to get out of the boat a pull it through a rapids—keeping in the water along shore—than it to risk your own neck and your bo in dangerous waters.

Don't take any chance of losing yo boat through carelessness. When y stop for lunch, pull the bow of t boat up on shore or, better yet, the boat to a tree or rock. Then you never have the experience of seei your boat drifting out of your reac marooning you.

Don't lose your head if your bo ships water or does upset. Unless t boat is rotten and old, it won't sink the bottom even when filled with wat This is true of all kinds of boats, i cluding canoes. If it ships water, quietly and bail it out. If it overturn

A sturdy boat like this, with an efficient o board motor, is absolutely safe if a few simp common sense rules of safety are carefu observed.

gab some portion of it and hang on. Don't be a show-off in a boat. Playfully tipping the boat is asking for trouble. So is moving around suddenly or trading seats with somebody in a canoe. So is driving an outboard motor at top speed through strange water or among other boats.

Don't start out in a boat without checking it carefully first. You're silly to pay some farmer a dollar a day rental for a boat that leaks like a sieve. You're asking for trouble if you start out without being sure you have a sufficient supply of gasoline for your motor. You're unwise if you rent a canoe without making sure, first, that it is wide enough and long enough to be used safely.

Don't ever start out in a boat, particularly on a big lake, without some kind of weather information. A sudden rain squall or a wind storm can get you in an uncomfortable situation. It may even force you to make shore and to stay out on the lake a lot longer than you had planned to do.

Finally, don't take liquor into a boat with you. Drinking liquor and running a boat is combination just as dangerous as drinking and driving an automobile. That is why the best professional guides will not permit fishermen to use liquor while on the water.

It's worth repeating that a boat is the most convenient vehicle a fisherman can use.

It is safe as a church if you'll just remember that the only common sense and good judgment that enters into the operation and use of a boat must come from you yourself.

Lancaster Youths Benefit by Lake Stocking

Fishing for Lancaster's young anglers should be picking up next year because State Fish Warden Robert M. Greener recently stocked the lake at Long Park with more than 800 fish. The fish came from an ice pond on the property of Mrs. Elwood Gochenaur, at Manheim. Mrs. Gochenour, in the process of draining the pond, turned the fish over to Warden Greener who supervised the transfer.

In the past year, facilities for fishing have been made available to boys and girls 13 years of age and younger under a program sponsored by the Lancaster Junior Chamber of Commerce. The 750 sunfish range in size from two inches to half-grown. About 25 catfish, some a foot long, 20 small silver carp and several hundred frog tadpoles were found in the Manheim pond as workmen drained the water.

As the water level went down, Warden Greener and his assistants used bait seines to gather the fish. They were then placed in tubs of water and brought to Long Park, dumped into the lake. Prior to this, some 1000 blue gills from a fram pond on the property of Ira Herr, near Martieville, Lancaster county, were transferred to the lake.

Strange Creature Found by Boy

Photo by Hal H. Harrison

Vern "Butch" Silliman, Tarentum angler, displays two of the 12 octopus-like creatures that he found in the Allegheny river. They were identified at Carnegie Museum as common squids, salt water mollusks.

To find twelve wierd-looking creatures in a shallow section of the Allegheny river opposite Tarentum early one morning last summer was the unusual experience of Vern (Butch) Silliman, 15, a ninth grade student in the Tarentum schools.

These strange things, their arms dangling and waving in the current, answered Butch's idea of an octopus. To add to the gruesome discovery, the boy found the heads of over 20 catfish floating in the water nearby.

The night before, Silliman, and a fishing companion, Joe O'Donnell, of Natrona, had found one of these octopus-like things near the same spot, but to find a dozen more the next morning was too much for Butch's nerves. He hurried across the river to tell his family of his discovery.

Returning to the spot with assistance, Silliman fished two of the creatures out of the river and put them in a bucket. They were apparently dead, although the movement of the water gave the things a very life-like appearance.

At Carnegie Museum, Pittsburgh, Gordon K. MacMillan, assistant curator of recent invertebrates, identified the strange members of the mollusc world as common squids. How did they get into the Allegheny river? Mr. MacMillan did not know, but he was quite sure that they did not get there under their own locomotion.

"Squids, like octopi, are salt water creatures," Mr. MacMillan explained, "and they would be unable to live in fresh water. It is my opinion that they were dumped into the river and that they washed about until they were found," he added.

The finding of these squids reminded the scientist of a similar incident that occurred in West Virginia just two years ago. At that time, the scientific world was surprised at a newspaper announcement of the finding of six octopi in the Blackwater river, Tucker county. Although many theories regarding their appearance there were advanced, no certain explanation was ever forthcoming.

Another unsolved mystery concerning an octopus occurred in Pittsburgh on December 31, 1947. This octopus was found in the basement of a building at 2806 Shadeland avenue, next door to No. 52 Engine House.

Since meat and fish markets throughout Western Pennsylvania sell squids as food, it is considered likely that some of these have found their way into the Allegheny, either from a store or from a customer who purchased them.

SPORTSMEN'S WIVES PLEASE READ

It is "awfully fine for men to go fishing and I note the trend of more and more wives accompanying their husbands to the fishing spots. That is good too, but it is a lot better for the husband if he can be alone at least part of the time with a stream and a rod and reel." Thus spoke Judge Camille Kelley, one of the nation's brilliant feminine jurists, to the wives of delegates attending the International Association of Game, Fish and Conservation Commissioners and the American Fisheries Society recently. She called on the wives to "encourage and support their husband's love for sports because if we have enough of the spirit of fun, sport and laughter, we will never descend into the slough of despondence."

Clipped!

Fish Commission truck drivers are being warned to look out for flying buttons! Horn buttons . . . that is. A load of fish was being delivered into Westmoreland County from the Tionesta Hatchery, and when the driver crossed a railroad track, the horn button popped off the steering wheel, clipped him on the chin! It's a fact.

Chicago and Eastern Illinois railroaders tell this one about a seasoned engineer and his "rookie" fireman. They were on top of a water tank, preparing to fill the engine's boiler, when the excited rookie fell into the tank.

Peering down at the floundering fireman, the old-timer shouted: "Just fill the boiler with water, sonny. No need to stamp the stuff down."

LAKE TROUT IN PENNSYLVANIA

J. Q. Creveling, Wilkes-Barre attorney, and former member of the Pennsylvania Game Commission, holds lake trout weighing 12 pounds, 34 inches long which he caught in Crystal Lake, Susquehanna county during 1940 season.

A few lakes in Pennsylvania contai lake trout, strange as it seems. Laker like their water with plenty of depth 75 feet or more, are perhaps ou largest and most powerful fresh wate fishes. When fishing 10 fathoms o more, it's necessary to use tremend ously heavy weights to sink the bai which practically reduces the anglin technique to a "haul and wind" process

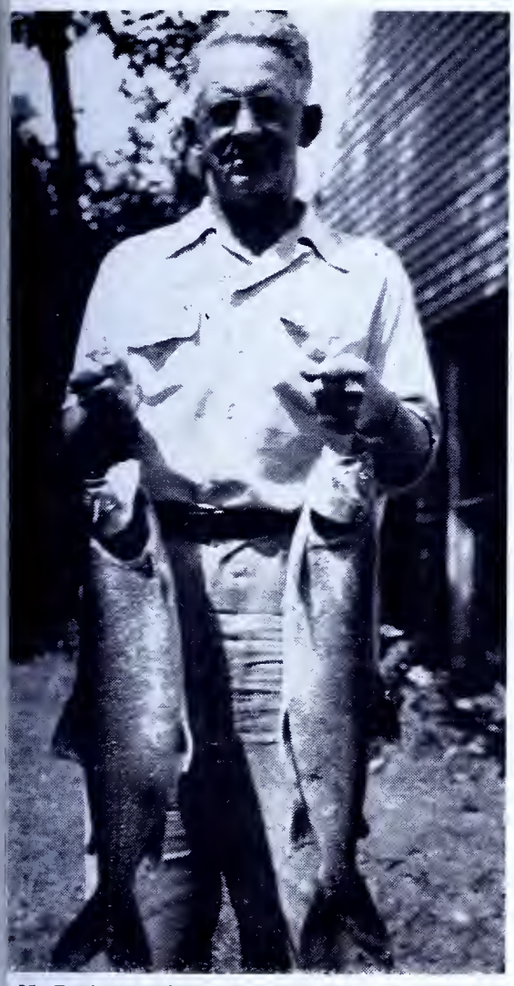
During the early spring, howeve just after the ice goes out, angler with light tackle run into plenty c trouble taking these "forktails" in th shallows. Most consistent methoc though, is trolling with spoons wobblers and plugs. While these fis average around 5 to 8 pounds, th world's record is a 63-pounder take in Canada in 1930.

The lake trout is a charr, therefor is related to the brook trout becaus of the formation of the teeth in th roof of its mouth. The color of the fis varies widely under different wate conditions, from dark gray to light o pale gray. Body is covered with pal spots, tail is forked, flesh runs fror white to pink.

Foremost of Pennsylvania's lak trout habitats are Harvey's Lake Luzerne county and Crystal Lake Susquehanna county. J. Q. Creveling Wilkes-Barre attorney has been suc cessful fishing for lake trout in thes places for over 30 years, informs u lakers were first planted in Harvey' Lake sometime between 1880 and 189(At first, few were taken by rod an line, more caught with bait throug the ice in winter.

Up to 1903, however, few were re ported of any size but as time went o anglers devised new methods, nev tackle, began to fool some of the bi "forktails." Average size of trou caught in Harvey's Lake, 1903 to 191 was about 4½ pounds, a few weighe 9 pounds, a rare one up to 12 pounds After 1915 stocking was increased an it is well to note that after that yea the fish decreased in size.

No stocking has been done for sev eral years and of late, trout averagin 7 pounds to 9 pounds, have bee caught. Several 15-pounders have bee reported from both Harvey's an Crystal lakes. Creveling says the bes method of taking these fish is using heavily weighted trolling line, grad uated weights, letting line out 150 t 175 feet. Wobbling spoons, 3 inches i length manipulated in such a manne as to get the lure running close to th bottom, kept active, usually mak connections.



M. B. Avery of Harvey's Lake, holds two lake rout, weighing 7 and 8 pounds he took in Iarvey's Lake, Luzerne County, August 18, 1950.

AMERICAN FISHING BOOKS

(*From Page* 5)

vrapper announced that each part vould contain twenty-four pages of ext and two colored plates, to be ssued monthly at $8.00 per year.

With part 3, volume 2, May 16, 1832, he co-partnership existing between he Doughtys was dissolved by mutual onsent, and the business was hence-orth continued by John Doughty. A iotice in part 6, volume 2, 1832, an-iounces discontinuance at the end of he volume unless it receives better upport; however, the extra part, i.e., he index explains the delay in pub-ication as being caused by a five nonths' trip to the southern states, vhere the editor secured new material or the work and enough subscribers o warrant its continuance for another olume. With part 4, volume 3, 1834, nding with page 96 and plate No. VIII, he work was discontinued, bringing o an end this interesting publication, vhich has the distinction of containing he first colored sporting prints made n America. Thomas Doughty was one f the foremost painters of the Hudson River School but, others like M. E. D. Brown—instructor of N. Currier of he famous firm of Currier and Ives—who contributed to the colored plates, were equally as good.

Volume 3 is quite rare and complete sets appearing at auction sales have brought up to $650.

Little mention of the implements and methods used in fishing can be found in *An Authentic Historical Memoir of the Schuylkill Fishing Company;* rather, the book is a history of what is today considered the oldest club in existence. It was written by William Milnor, Jr., in 1829, the year he was elected mayor of Philadelphia, and was published in 1830. Milnor states that:

" 'The Schuylkill Fishing Company of the State of Schuylkill,' is the present adopted charter name, received on the declaration of its independence.

"It was founded by the name of *The Colony in Schuylkill* in the year 1732 by a few of the original settlers, many of them emigrants with Penn to the New World, residents in and near the young and thinly inhabited City of Philadelphia."

In the membership list can be found names of high distinction, many of them being prominent in the struggle of the Revolution.

The book is quite valuable, probably occasioned by the fact that it contains, in addition, *The Memoirs of the Gloucester Fox Hunting Club near Philadelphia.* Two varieties of the first edition exist; one contains the portrait of Samuel Morris, executed by the celebrated Charles Balthazar Julien de Saint Memin, while the other does not. Since it has never been satisfactorily determined which made its earlier appearance, the two variations sell for about the same price.

The first fishing book published in this country was the *Natural History of the Fishes of Massachusetts, embracing a Practical Essay on Angling.* It was written in 1833 by Dr. J. V. C. Smith and contains two parts, the second being *On Trout, Interspersed with Remarks on the Theory and Practice of Angling.*

Smith's work was a pioneering achievement and was the first to give a detailed description of the fly fishing equipment then in use. He writes:

"A pocket book not only well supplied with artificial flies, but with such materials, particularly feathers, as enable him to repair his losses and imitate nature on the spot, is an important article of the fly fisher's equipment; his rod, however, deserves the first consideration. The wood is hickory; it is twelve and a half feet long; it has but three joints, which are ferruled only on one end for the sake of lightness; the butt is solid, very large in the hand, and tapers very suddenly; into the end of it, a spike of five inches in length, thin like a knife, is made to screw, for the purpose of supporting the rod upright in the ground, as this is a position in which it is least exposed to danger; the length of the spike is required to give it firmness in the ground in which it is thrust, which is often of a sandy or mossy nature—finally when put together, it weighs but thirteen or fourteen ounces without the spike, and may be held all day at the extremity, or, as some prefer, above the winch, without the least fatigue, and is under as much command as a coach whip."

Now suppose we check on the reel, line, leader and flies.

"A reel or winch is indispensable; it should be such as is called multiplying, with which advantage is taken in exhausting the fish, by winding up the line with greater rapidity whenever it becomes relaxed.

"The line should be about thirty yards long and made of patent silk and hair, either of a green or gray color. A line made of hair, or silk and hair wove together is preferred, (indeed no fly fisher uses any other) on account of its not becoming heavy and saturated with water, like lines of silk and other materials, which cling to the rod when wet and swelled, fall with violence when the fly is cast, and are not delivered freely through the rings of the rod.

"Smaller lines, made of the indispensable material gut are also necessary; these are called 'casting lines' and sometimes 'foot lengths," and are attached as occasion may require to the principal line, for the purpose of falling with less violence upon the water.

(Continued Next Issue)

Fancy Catfish

Huntsdale Hatchery, already noted for its production of kingsized Albino Frog tadpoles, now has something new and fancy in catfish. During the fall roundup there came up out of the depths of one of the larger ponds a catfish—pardon, this one is a bullhead—sporting bright orange colored lips, whiskers, fins, and tail. He—or she—is still with us and it is hoped that another one with the same characteristics will show up soon so that large scale propagation of this deluxe model may be commenced at the Hatchery.

Paradise Spruces Up!

Spring Creek Project commonly called Fishermen's Paradise—is having its face lifted.

New stone pillars and appropriate gates have been erected at the entrance and a new woven wire fence is being constructed to replace the old dilapidated one.

Fish Warden Harry Z. Cole (right foreground) and some of the sportsmen who helped to drain a Montgomery County propagating pond from which were removed for transferral to streams throughout the County approximately 125,000 fingerling catfish, sunfish and golden shiners.

Harry Price (left) of the Lower Merion Rod ar Gun Club and Raymond Landes (right of tl Perkiomen Valley Sportsmen's Associatio securely rope lids to cans and cans to truc preparatory to hauling fingerlings out to Mon gomery streams.

Saturday We Transplant Fish

By Ellen A. Dietrich

When most folks speak of planting and transplanting, they generally have in mind *plant life* as the subject, and manpower, tools, soil and water as additional important factors.

When the sportsmen of the MONTGOMERY COUNTY FEDERATION OF SPORTSMEN'S CLUBS get together for a "transplant job," frequently they, too, are concerned with transplanting tiny trees raised under the supervision of District Forester Wilford P. Moll of Norristown. In fact, in October when Moll and Montgomery County Federation's forestry chairman Ray Landes gave the "Tiny trees are ready!" call, the sportsmen of the County did accomplish a transplant job with tiny *blight-resistant chestnut trees*—1700 one-year-olds, which club members were eagerly awaiting to place in locations where they would aid hunting and fishing for the public.

On another day in October, however, when Montgomery County's Fish Warden, Harry Z. Cole of Norristown, and the Federation's fish committee chairman Howell Dietrich gave the "Tiny fish are ready!" call, the Montgomery sportsmen responded with: "Okay, Saturday we transplant fish!"

The following Saturday, therefore, *fish life* was the subject—125,000 of them, catties, sunfish and golden shiners—with manpower, tools, cans, trucks, mud and water as the additiona factors.

At nine o'clock in the morning th sportsmen began to trek toward th propagating pond, until finally forty six men and women from twelve club with six trucks, and buckets and can of all sizes, shapes and descriptions ap peared on the scene. Everyone wa pleased with the turnout. For, wit plenty of manpower and equipmen no undue burden was placed on any one; and several participants com mented that their part of the job wa fun—in addition to being a helpfu boost to the sport of fishing throughou the County.

While early arrivers opened th flood gate of the pond and permitte the first high gushes of water to pro ceed downstream, among passing re marks made by fishermen present wa the observation that similar trans plantings of fish by the Montgomer sportsmen in previous years—datin

Trio from Upper Perkiomen Sportsmen's Association—Left to right: James and Carl Bardman and Gerald Koons, who helped to man the gates in the transfer of Montgomery fish.

(Left to right) L. M. Kline, Harold Krause and Ray Fluck of the East Greenville Rod and Gun Club, who brought a truck and large milk cans to transfer Montgomery County fingerlings.

ck before World War II—had notice-ly aided warm water fishing in the reams to which fingerlings had pre-ously been transferred. Many of the ounger fish," it was reported, had ovided food for larger fish, while hers had escaped cannibalistic treach-y of their finny older brothers and sters in their new waters and had ached respectable panfish size them-lves.

But there was little time for musing er work of the past on the recent igerling fish transfer day in Mont-mery County. For, as the water in e propagation pond lowered, the fish ere washed down; and as the fish gan to be washed down, the sports-en swung into action. The tiny crit-rs had to be moved *quickly*.

All morning and afternoon, the flood te was opened and closed, each time lowing many tiny, shiny bodies to be ught in the nets below. Each batch fishlets was quickly washed, placed cans of clean water, loaded onto ucks and driven out immediately to reams of the County.

On this occasion, as on previous ansferrals of fish, the sportsmen ob-rved that the greater number of the ny, shiny bodies do not come out of e pond without a struggle—a vig-ous struggle to stay upstream. When e water was very, very low—in fact, hen it was almost entirely out of the nd—participating sportsmen who ere not at the moment out along the rious streams of the County un-ading cans from trucks, witnessed an most unbelievable seething, living ass of thousands of fish, piled six or ven inches deep and still trying to main *above* the dam.

There were tense moments at this juncture. For, at the time no water was entering the pond from above. The heavy concentration of fish was in a huge "mud pocket" about fifty feet above the dam breast. An attempt to net them from the pocket was futile; and the ditch that the sportsmen dug through the mud from the pocket to the dam did not bring them out. They had managed to remain together until the water had left the pocket and their weight, as they writhed and wiggled among each other for a brief while, almost made them part of the mud itself. The local fire company saved the situation—ironically, by slowly filling the pocket with water again, so that the fish were eased down the ditch to the dam breast and captured, as their brothers and sisters had been captured earlier in the day.

Members of the Royersford Hunt and Fish Association—Left, Philip Krasley and (right) Joe Wenzel, with more cans to aid with transplanting Montgomery's tiny fish.

Left to right: Ray Ellinger, Louis Sitko, Paul Ellinger and Joe Sitko, all of the Morwood Sportsmen's Club, ready to leave the Jeffersonville pond with a truckload of fingerlings for Montgomery County streams.

And with the setting sun of that October afternoon, the Montgomery sportsmen said: "We look forward to *another Saturday when we transplant fish!*"

HATCHERIES ESCAPE
(Havoc of Storm!)

A survey of the effects of last month's terrific storm upon the fish hatcheries of the state rings with reassurance to the fishermen of Pennsylvania. Of the ten fish hatcheries operated by the Pennsylvania Fish Commission, only one suffered any appreciable damage.

Bellefonte, in Centre County may well be considered a central pivot of the torrential rains and hurricane winds. Foresightedness of those in charge of the Bellefonte hatchery following the deluge of 1936 really paid off during last week's storm. Following the 1936 flood when damage was high, the Fish Commission constructed safety dikes and retaining walls around the fish propagation areas; dikes and retaining walls capable of handling a flood equal to or greater than 1936. While the flood of that year was greater than last month, the damage at the Bellefonte hatchery last month was confined to landscape and roadways throughout the property. The dikes and retaining walls provided sufficient protection to the propagation areas saving these units and possible million fish.

The hatcheries in the northwestern part of the state are heavily blanketed in snow with no material property damage. There will be no interference either by loss of fish or the fish stocking program planned for 1951.

How many pleasant dreams we spin of fortunes when our ship comes in. Meanwhile, forgetting all about the fact we never sent one out.

Joe: What's the best way to avoid trouble?
Moe: Wrong no man and write no woman.

What's New

Reviewed by Hugh Johnson

in Fishing Books

A MODERN DRY-FLY CODE, by Vincent C. Marinaro (published last November by G. P. Putnam's Sons, New York, N. Y. $4.00), while not dedicated in so many words to the streams around Carlisle, Pennsylvania, is nevertheless from first page to last a paean of praise for those waters, particularly the Letort. Drawing upon his own experience and that of others on these waters, Mr. Marinaro, declaring at the outset that the Letort and its neighbor streams are quite typical of limestone streams throughout the country, sets out to re-examine the theories and concepts underlying modern American dry fly fishing. A large order!

With a deep respect for Halford, Lord Grey, Gill, Gordon, La Branche, and other greats whose collective practical and theoretical genius has provided the foundation and built the structure of dry fly fishing as we know it, the author nevertheless has obviously done some fresh independent thinking and sheds some interesting critical light on some of the things that are regarded as the holy writ of the "giants." I don't know of any book published since La Branche's "The Dry Fly and Fast Water" that gives dry fly fishing such concentrated, stimulating treatment as does, "A Modern Dry-Fly Code," a book which does for dry fly fishing on limestone waters today what the La Branche book did in its day for dry fly fishing on the fast, freestone streams.

It should be added here that, although Mr. Marinaro's work chiefly concerns the problems of fishing the relatively quiet, slow-moving, insect-rich limestone waters, much of it is applicable to the fly fishing situation of the faster, freestone streams as well.

Typical of Mr. Marinaro's departure from traditional thought is his contention (and a well-founded, thoroughly documented case for it is set forth), that the wings of the artificial fly designed to imitate the natural dun or sub-imago are very important, quite contrary to the current belief that wings are unessential. In fact, he says, "The wing, its height and breadth and flatness, is the most important part of a floating dun!" He backs up this statement with a lucid analysis of light refraction and the trout's "window." Accordingly, for example, in the interests of achieving more exact imitation on the Hendrickson dry, he stipulates for the wings —"darkest slate blue—cut and shaped from the webby part of two large neck hackles" instead of the customary wood duck. On the point of wings, and on many others, the author takes a fresh stand, states his case dynamically, and his book will undoubtedly inspire some new controversy in dry fly fishing circles which will be healthy for all concerned.

A man looking for a dry fly fishing "handbook" or for a quick how-to-do-it course in one easy lesson, will not find it here. But for the intellectually curious angler, who really loves dry fly fishing, to whom the appeal of the mysteries of the hatch and of the trout's strange behavior during the hatch is never-ending, for the man who feels in his bones on a May day the very rhythm of the world of duns and spinners, A MODERN DRY-FLY CODE is what he has been waiting for these many years. And it is a beautifully designed book, too, with endpaper drawings, and with line-drawings on almost every page.

Incidentally, on page 187, the author refers to THE PENNSYLVANIA ANGLER as "angling paper without peer in the land!"

THE WITCHING HOUR

(*From Page 7*)

and fully aware that the game is his if he can but get it.

What I saw in that pellucid three-foot depth caused my heart to leap. With his snout against the bank at the point where the spring water seeped into the pool was a rainbow trout. And what a fish! With an audible gasp I quickly recoiled and stood there trembling.

The momentary glance filled my mind with doubt. Was it a trout? It could have been a big sucker. Was it even a fish?

To convince myself I took another peek. It was a trout all right; a magnificent rainbow, not as large as it seemed at first glance, but a good eighteen inches at that.

This time I looked long and longingly. I was close enough to see the great pectorals slowly fanning, apparently synchronized with the pumping gill covers. The fish was completely oblivious of intrusion. As I watched, the trim head swung from the bank and pointed upstream.

I went to work methodically. First, I paraded three patterns of wet flies before its aristocratic snout. They were haughtily ignored. In quick succession followed complete assortments of feather minnows, bucktails and spinner combinations. Nothing doing. Good imitations of a grasshopper and a cricket caused him to back suspiciously away.

At the end of what seemed like ten-minutes but in reality closer to thirty, I gave up in disgust. I even doubted if the fish would take flight should he see me. Accordingly, I disclosed myself.

What followed was bewildering. There was a flash under the log, another in the vicinity of my submerged legs and still another at the tail of the pool some twenty-feet from where I stood. The three movements could have been timed by the quick uti- ance of *zing-zing-zing*. That was t so I continued onward.

Late that afternoon on my way b to the bridge and my waiting comp ion I paused for another try at t rainbow. Screened by the clump upturned roots I peered into the wa The fish was there.

This time I decided to appeal to pugnacity rather than to its appet Accordingly, I hauled out four or f garishly colored flies. One, a sca hued nightmare was my first choi Dropping it softly into the middle the pool I began working it toward unsuspecting fish.

Unsuspecting, did I say? That was spotted the moment it hit water. This time there was but single *zing* and the fish disappea into what is the aquatic equivalent thin air. I pursued my way to bridge.

* * *

"Do you have a flashlight w you?" asked George as we piled of the car at the bridge after returni from Mercer.

"Yeah, I have one in the glo compartment here," I replied as clambered back into the car and fu bled for it.

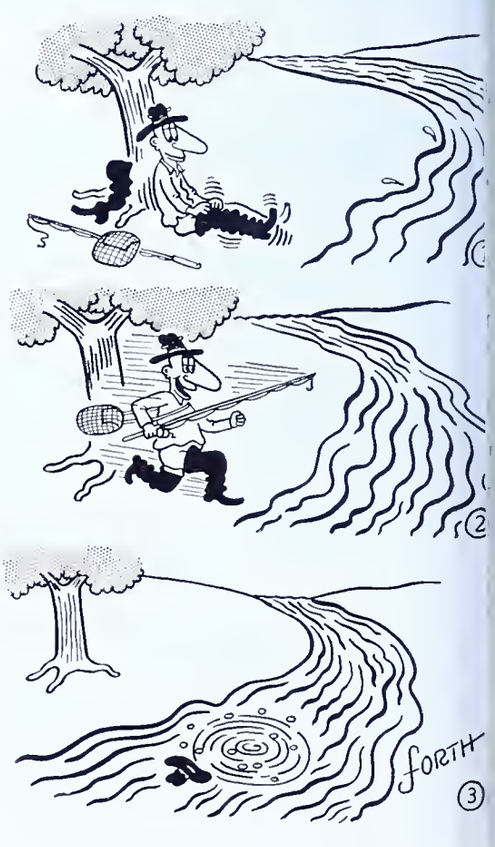
"We'll need it—and let's be on o way," he said gathering up his st

On our way to the rainbow's l I agreed to let George have first t at the fish.

"There may not be a second chanc he warned.

"Meaning what?"

(*Turn to Page 23*)



'IN QUANTITY and QUALITY"

By KENNETH A. SHULTZ

'his timely article appeared in the Conservation News pub-ished by the Conservation Society of York County. One more group takes up the fight against pollution.

Progress in York is being made ıng the anti-pollution front; but the ıion was not voluntary. About four ars ago, through the efforts of vernor Duff, the stream cleanup mpaign in Pennsylvania began in rnest. The Pennsylvania Sanitary ater Board has been determinedly d vigorously behind this program. e many chapters of the Izaak Walton ague of America have been behind s program since the inception of se chapters. It has been a long hard ttle; but, at last, through the efforts such organizations as these and ıer public spirited citizens, rich rerds are being reaped. Once more, nnsylvania is out in front—this time, the recovery of its streams to assure eir use as nature intended them to used—by all the people, and not for e as a dump for every kind of waste. e City of York has received orders build a new sewage plant by June, 52. Many cities and towns along the squehanna River Valley have reived like orders; but only after surys have been made which revealed llution conditions.

Reported Progress

The first progress report was ordered the State to be completed by August 1 A three inch news item, in a local loid, under the date of August 5 rported that the report was made omptly and reviewed what had been ccomplished since York City was dered to correct the weaknesses of present sewage disposal plant. Reprts of progress must be submitted ery two months. Another report must made to the state authority soon. is report will be followed with inter-t. York City will have an adequate wage disposal plant! We have but e choice, to obey the mandate.

As evidence that the Pennsylvania nitary Water Board is determined, nsidered the paper manufacturing mpany located in Whitemarsh Townsip, Montgomery County, which was dered to comply with previous orders ued by the Board to construct and ace in operation a waste treatment stem at the mill. Plans were approved and construction ordered by June 1. The Company requested an extension of time to December 31, 1950 which was refused.

Industrial Wastes

The drive against untreated industrial wastes has gone on unrelentlessly by the State Sanitary Water Board and its efforts have been rewarded in terms of great outlays of capital by industrial violators in installing waste treatment plants. The P. H. Glatfelter Paper Company has long been used as the classic example of public water pollution by industry in York County; yet, right here in York City, in our own front yard we have found some of the foulest waste emptying into the Codorus and its tributaries. The Glatfelter Paper Company has almost completed the installation of its waste treatment plant at great expense. Other industries along the Codorus have already completed the installation of such plants.

If everyone in every community located along the right-of-way of our inland waterways believed and practiced the basis for the Izaak Walton League's policy in its fight for clean streams, the problem would not exist. The basis for the policy maintains that "dwellers along streams have the fundamental right to receive the water coming to them in its natural purity and their obligation is to pass it on to their neighbors unimpaired in quantity and quality." This is the golden rule which every stream dweller should use as his guide to safer water and water sources.

Until we take some action to prevent the section of East York north of the Lincoln Highway from continuing the open sewer found there, and which subsequently empties into a tributary of the Codorus, our problem will remain unsolved.

Let's Stop Talking

Let's have some fishing and picnicking along the Codorus again. We can, if everybody puts his shoulder to the wheel. We can have the things we've been talking about for the past twenty years. And while we are on the subject, wouldn't it be nice to have a tree-lined Codorus where it runs through the city! Conservationists tell us that trees, properly planted along the streams, help retain water in the area and beautify the course. I wonder how many people of York will believe that the trees which were planted along the old Codorus were one of the contributing causes of the floods we used to have in York.

An Engineer's Nightmare

Do you believe that reader? No one has been able to convince me that they were one of the causes of those floods. The trees which formerly grew along the Codorus might have been old willow trees in need of some attention, but there is no reason why other trees could not have been planted to take the place of those removed. The line of least resistance was to remove all trees and shrubbery to make way for the engineers' tools. It's not too late to begin reclaiming some of that beauty now; but, one person cannot do the job. To get some idea of what we, in York, could have, next time we pass over the Conestoga River in Lancaster, let's take another glance at the stream banks there.

The "KEEP PENNSYLVANIA GREEN" program recently received added impetus when a group of interested citizens in York City and York County met at Glatco Lodge to hear representatives from Washington and Harrisburg discuss the program. Mr. Glatfelter, Chairman of the Pennsylvania Committee, was a most gracious host to those who attended the meeting. Let's begin keeping York County and York City green. Isn't it plausible that the committee sponsoring this program might make a contribution to the banks of the Codorus.

Conservationists, let's KEEP PENNSYLVANIA GREEN and the CODORUS RIVER clean.

Mercer County Sportsman Named To Pa. Fish Commission

On December 14, 1950, Gov. James H. Duff appointed Philip E. Angle of Sharon a Member of the Pennsylvania Fish Commission to succeed Clifford J. Welsh whose term expired. Mr. Angle comes to the Fish Commission as one with a very colorful background in the field of conservation.

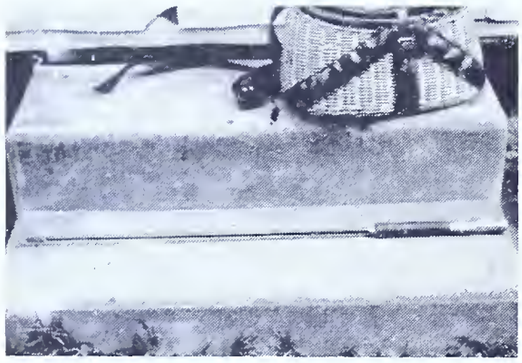
His activities and interest has extended over some forty years during which time he was an organizer of the Izaak Walton League of Allegheny County and the Allegheny County Boy Scout Movement. A life member of the Western Reserve Fish and Game Protective Association of Sharon, Mr. Angle has been active in sportsmen's circles in the northwestern part of Pennsylvania.

TACKLE TINKERING
Try this Gaff that Get's 'em

By Keith C. Schuyler

If you are the type that likes to tinker and use things made by your own hand, there is a very effective gaff that can be made from odds and ends of old fishing tackle.

The ideal main section for your gaff is a discarded butt length of an old fly rod. The average butt section is about 34 inches long which is a perfect length. This provides a convenient cork handle and gives your finished article a professional appearance. However, any round rod about ½ inch in thickness will do. Wood is preferred so that the gaff will float.



In this article, we will deal with the old fly rod section since that is what I used for my latest gaff.

If the wrappings are badly worn, it might be well to re-wrap the section and give it a coat of rod varnish. Then remove the joint ferrule by knocking out the tiny pin that holds the ferrule to the section. It may be necessary to heat the ferrule to soften the cement. Varnish over the now exposed bamboo will prevent rot and lengthen the life of the gaff.

Obtain the largest treble hook available at your local sporting goods store. You can go better by sight than by size since you want a very large set of hooks. You will also need a small bolt about an eighth inch longer than the thickness of the end of your bamboo section.

Drill a hole a fraction of an inch less in diameter than the bolt through the bamboo at a point which will take the eye of the hook and still allow all of the shank for wrapping. Use shoemaker's cord or fine wire to wrap the shank of the hook tightly against the bamboo after the hook has first been fastened in place with the bolt. A bit of varnish over the nut will prevent it from working loose.

Get some very small bottle corks to place over the three barbs of the treble hook to insure safety in transit of your gaff.

You now have a gaff that will serve well against any but the very largest fish such as exceptional muskies and lake trout. The cork handle of the fly rod section affords a good hand hold, and the barbed hooks will insure your getting a bite into your quarry at practically every try. In this respect, the home-made gaff has a definite advantage over the single straight pointed hook of the commercial types.

I first used one of these gaffs which I made out of necessity when pickerel in a favorite pond began running larger than my trout net could accommodate. Not wishing to be bothered with one of the big, two-fisted nets, as we had a good walk back into the pond, I made myself a gaff such as described and found that it did a fine job.

Never use a gaff, however, on any fish that you do not intend to keep. It is designed for one purpose: to bring in the big ones.

A SPINNING WE WILL GO
(*From Page* 11)

there was an old timer there fishing worms, he gave us a steer to a "crick" close by that had some "nice uns" if we could get on it since it was posted. We stopped by the owner's house and asked permission, he said "sure" but the state don't stock here, and I'm afraid you'll be wasting your time. We thanked him and said we'd try it anyhow, I'm glad I did. Two trout of 20 inches were taken at the bridge in fast water in less than 10 feet on a spinner. When we left we each had 5 of the nicest trout you'd laid your eyes on. I offered the farmer some fish, he said he didn't care for fish nor did his family. I have a date for this year there.

Keep your fly rod and plug rod, use the spinning rod only as an in between rod. Don't let some clerk tell you it only takes the big fish, it gets little ones too. When the streams are low, the lures on the Spin rod are out, unless you use flies with the float. The fly rod is the only tool for that condition. Try it for salt water fishing from a row boat. You won't catch as many fish, but you'll have more sport with the light tackle than the guy who uses a telephone pole and lines like ropes, that hoists them in to see how many he can catch, most go to waste anyway. If you're out for the limit of fish everytime you go, don't take up spinning. It's the outfit for a man who likes to play fish out on light tackle and who prefers artificials over bait.

I hope this article will help you to select the proper tackle. If the clerks only work for a pay check and don't know the score don't buy until you are sure that you yourself know what you are doing. Take the advice of some one who has the equipment you intend to use. It's your money you are spending—So until next April—"A Spinning We Will Go."

TRY THESE STREAMER FLIES
(*From Page* 9)

whisps, tied one on top of the othe The body is of olive green floss ribb with black tying thread. The win are black feathers and a few red hack whisps and jungle cock eyes are adde

I could relate numerous experienc with this fly, but while it is no wond lure, it is one of my favorites for tro or bass. This same fly pattern m have a gold or orange floss body, a if ribbed in the same manner wi black tying thread it makes a go pattern for lake fishing where there a golden shiner minnows. Perch, C licos and bass will strike at it readil

The sixth streamer and last to discussed is the "Black Marabou." fly box would be complete witho some pattern which has a marab wing, for these soft feathers have life-like action in the water and c not be duplicated by any other mat rial. This action which is caused the currents weaving against the mar bou feathers makes it a deadly kill on big trout and bass.

This completes the list of s streamer flies that are among the t ones for Pennsylvania. Sure, there a many others that are good ones, pe haps catching as many fish each yea but in order to confine the list to ju a half dozen, to me, these six stick o of the huge assortment of stream flies like sore thumbs! There are hu dreds of patterns of streamers a bucktails, many of which are the o erings of fly tiers who merely want to use up some material, then agai these as well as those with famo names are good ones to use.

The best of them are rather sparse dressed so they will take on the sli streamline appearance of a minnow the water. Don't forget too, to use t larger sizes in the spring and tho smaller ones when the water level b comes normal in the early summe And when handling the fly, work close to the undercut banks and gui it close to rocks and logs for there a the places the big trout will hide. T watching a minnow darting about the water and then work your stream so that it darts about in much the sa manner. You'll take fish and big one

---

When a man answers the telephone, looks bored. A woman reaches for a cha

---

When a millionaire is a million times mo happy than the owner of a single doll folks will have a real kick coming.

A well built girl is like a three ri circus. A guy doesn't know where to lo first.

IE WITCHING HOUR

(*From Page* 20)

'Don't get me wrong," George ickly amended. "I mean that if we n't get him on the first try he probly won't give us another chance night. Anyway, not unless we ange tactics."

"There, that's better," I retorted.

When we reached the edge of the sture wherein the pool was located, gave George the lay of the land and empted to reconstruct the pool's tails as well as I could. "And," I rned, "casting is out. There are too ny snags."

George pondered for a moment and ally announced he would try a lumous trout plug.

I was frankly puzzled. "How do you pect to handle a plug?" I asked.

"Easy. If you'll stand at the head the pool you can hang on to it til I make my way down to the other d. When I give the word you can lease it. Then, it's up to me to work past the old boy's hangout."

I saw the light and considered the an plausible. "If you should hang m," I advised, "keep him at your d of the pool. There aren't as many ags down there."

When we reached our destination, te sycamore and hemlock, the down e and some other features were rly discernible in the open pasture.

"The layout is about as you described it," George observed approvigly.

With few preparations George got nderway. I stood at the pool's head iting to release the plug which I ld gingerly in my fingers. Around y neck hung a landing net, in my cket reposed the flashlight.

After what seemed an interminable riod I heard George's cautious, et her go."

The little plug emanated enough ht to be easily perceived as it began momentous journey. An aimless bble in this and that direction calated to simulate a minnow on its st fins. My companion was clever ith a trout rod.

When the lure curled past the uprned roots I held my breath in exctancy. Its action was perfect. The ft *plash, plash* of crippled prey, the osphorescent ripples and principally apparent aimlessness looked positely irresistible.

But the diminutive counterfeit negoted the entire length of the pool t unnoticed perhaps, but certainly molested. I heard George mutter mething.

"Let's try it again," I suggested.

"Not with the same setup," said George. "Here, let me have the flashlight." With it he disappeared into the gloom of the pasture.

I could only guess at what he was up to.

A moment later the bright beam of the light showed him apparently searching the ground for something. Probably a nightcrawler, I thought.

In a few minutes he was back. "What were you looking for?" I asked.

"This," he replied, holding the beam close to a piece of weathered board scarcely larger than his hand.

"The fish isn't a termite," I giggled.

"Going to float the plug down on it," obliged George, ignoring the jibe.

The same procedure was followed as on the previous trial except that the plug was launched on its erratic journey aboard the piece of driftwood. At a strategic point George gently drew it off its perch and it slipped into the water without a ripple.

At the first erratic twitch there was a splash where the lure had been resting quietly on the dark surface. "Whoops, he's on," yelped George.

Two splashes sounding in quick succession indicated as much.

George didn't fool. Indeed, it would have been fatal to have taken any chances. As a result, the heavy going soon had the fish exhausted. In an astonishingly short time it was worked into the shallows. Its dim outline showing plainly in the dark water indicated that the fish was on its side.

"Want some light?" I asked, handing George the net.

"No, keep it away. It may put new life into the old boy."

In another minute it was all over and we gloated over the fine specimen as it lay on the dewy grass under the bright circle of light. My measuring tape showed a shrinkage of two inches from my original estimate.

"A slight discrepancy," observed my companion with a happy chuckle.

"And it's exactly midnight," I said, glancing at my watch.

PLUG HAPPY GRANDPAPPY

(*From Page* 13)

I grabbed the net, dropped it over the side of the boat as Chuck gently eased the sixteen incher towards the top of the water. Half-spent it momentarily sidled near the boat and I quickly flipped it into the net.

"Well, there's yours. And it sure was a wild one," I remarked, reviewing its course over the top of the waters with my outstretched hand.

With two dandy bass in our possession we were in a mild predicament.

George Metzler, four-year-old son of Mr. and Mrs. P. L. Metzler of 149 Ann St., Middletown, proudly displays his first catch, a 9½-inch sucker. George caught this fish from Nissley's Mill on the Conewago Creek near Falmouth.

I had quoted soft shelled crabs as the *piece de resistance* at the local lake, and we had honestly intended to do some live bait fishing, but here we were with the bass showing a preference for wobbling wooden gadgets instead of the 100 per cent genuine article. And so it goes, on the last previous occasion when the bass had gone wild at this particular lake, they had chosen the softshells in preference to the artificials.

"Guess we'll have to keep the crabs for another day," my friend suggested. "Let's keep tossing these plugs around the lake."

"You're on," I agreed, and we continued our unusually successful simon pure tactics. A third bass was strung after hitting the yellow river runt again, in another part of the lake, as the shadows began creeping to the edge of the water.

"We'll have to try some surface bait," I suggested as it darkened. "I've got a number of them."

"Okay," my companion replied as we made a circle of the far end of the lake and headed back towards our dock I fastened a frog finish jitterbug and handed my buddy an injured minnow. "Do you know," I mentioned, "the bass haven't been too particular about what they've wanted today, just

(*Turn to Page* 24)

L — E — T — T — E — R — S

Sir:

I am enclosing a snap shot and two clippings from the Chambersburg *Public Opinion*. Both my husband and son are ardent fishermen. In fact they are an almost inseparable father and son combination. In the summer it's on the stream and in the winter, they read the ANGLER together. I'd be much pleased if you could use this. They would be sure to see it in the ANGLER.

MRS. P. M. ELLIOTT.

Chambersburg, Penna.

SMALL LAD, BIG FISH is always a good combination. Seven-year-old Perry Elliott, Chambersburg, landed this 8½-pound, 29½-inch catfish at Wolf's Lake last summer. Big fish put slight kink in his tubular steel rod.

Sir:

The December issue of the PENNSYLVANIA ANGLER tells a story of Mr. Roy Landis of Trooper catching a 3½ lb. eel. I am an ex-Sergeant of Police from Philadelphia, Pa., now on pension and an ardent angler and have subscribed to PENNSYLVANIA ANGLER for some time. Would like to tell an eel story. Was fishing over an oyster bar in the Chester River near Rock Hall, Md., with a light Jim Heddon casting rod and Pflueger Akron level wind reel with Ashaway Squidder line. Had a piece of apron from peeler crab for bait, when I received a heavy tug on line and I landed a 4½ pound croaker or (hard head) as they are called down here. Not losing the bait, I threw line back in the same place when I received a very heavy tug. After 20 minutes I landed a large eel that measured 42½ inches and weighed an even 4 lbs., the largest eel I have ever caught. The above can be verified by my companion, Mrs. Walter Strickler, 1525 Overington Street, Philadelphia 24, Pa.

WILLIAM MAGEL.

Rock Hall, Md.

Sir:

Enclosed is a picture of my wife and a fish I thought the ANGLER might be interested in. The first time I took my wife fishing she wouldn't put the worm on a hook so in order to keep her interest up I baited the hook for her, she threw it into the water and I started to bait my own hook.

Before I had my hook baited she was calling me, I looked around and saw her pole bending like a pretzel. She was hollering, "What shall I do now?" I, at first, thought she was snagged and started laughing. She then started to reel in and up came this fish. It's a 15½-inch smallmouth bass caught in a reservoir near Churchville, Pa.

This is really a "Beginner's Luck" story I thought you would like and I would appreciate it if you would put this picture in your ANGLER as I am a subscriber.

D. R. KELSHAW.

Glenside, Pa.

Mrs. Kelshaw and her "beginner's luck" bass.

The ANGLER welcomes and will use photos and letters from its readers in these columns.

PLUG HAPPY GRANDPAPPY

(*From Page* 23)

as long as something different kept passing in front of their noses?"

"How do you mean that?" my companion asked.

"Well," I said, "I started with a yellow river runt, caught that small bass on it, which we threw back in, then changed to that old deep running spook when we began trolling. Those two big babies hit the spook; I missed them both, then both, then they quit. changed to a gray sad and caught th grandpappy. Meanwhile, you tried red headed wobbler and caught o on it, then I got another one on t river runt again. Since then, we' had a strike on a flatfish, and I wond what'll happen next."

Just then I had another jolt! "See I excitedly exclaimed as the surfa of the water rippled around my plu "Here's one hitting that green jitte bug. It's a small one, though," I adde "I can feel it." We landed it but thre it back in for future consideration.

"Guess those bass are like kids aft lollipops," Chuck exclaimed. "Th can't decide on what color or flav but keep taking everything tha offered."

"I guess so," I said, and then adde "let's get in and have a late fish fry

"How'll we get the women to co them this late," Chuck asked.

"We'll have to outfox them," I sai "Use psychology."

"How?" asked Chuck.

"Oh, you know what they'll s when we get home, don't you?"

"Sure," Chuck said. "They'll wa to know what we caught."

"And we'll say what?" I asked.

"None," Chuck said.

"None is right," I replied.

"Then they'll say they had t skillets ready for a fish fry," Chu added.

"And that's when we'll bring in t fish."

. . . . .

Sure enough it happened. Chu offered to do the honors of fish clea ing. "Lemme at those bass. I have cleaned a good bass in a long time Then he continued, "Which way you want them done, scaled or ski ned?"

"Oh, I never skin them," I said.

"That gets rid of all that strong tas in a bass," Chuck volunteered.

"It does? I queried. "Well, let's sk them, then."

"And filet them? They're b enough."

"Okay, filet them, too."

We had our fancy fish party ne midnight and the skinned bass tast superb. Ever since then, I've bee skinning them, and now even my wi eats them. And that's saying som thing, since before that time, she a a fish never did agree.

Of course you can surmise, too, wh we found inside the bass when the were cleaned. You're right. Just wh we had originally planned to use to g them—crabs.

All cars should be equipped with mecha ism that would detect the odor of liqu and, upon doing so, kill that motor, app the emergency brake and swallow and dige the ignition key.

7 SPECIAL AMENDMENT OF THE FISH LAWS PASSED BY 1949 LEGISLATURE AND RESOLUTION OF THE COMMISSION—ALL FISHING IS PROIBITED IN ANY WATERS FROM MARCH 14 TO 5 A. M. APRIL 15, 1951, EXCEPT IN RIVERS, LAKES, OR PONDS NOT STOCKED WITH TROUT

THE FOLLOWING IS A LIST OF WATERS CLASSIFIED AS RIVERS IN PENNSYLVANIA

Name	*Tributary To*	*Basin or Sub-Basin*
*Allegheny River	Ohio River	Ohio
Ashtabula River	Lake Erie	Erie
Beaver River	Ohio River	Main Ohio
Beaver (Little) River	Ohio River	Main Ohio
*Beaver (Little) River, North Fork	Little Beaver River	Main Ohio
Black River	Saucon Creek	Middle Delaware
Casselman River	Youghiogheny River	Monongahela
Cheat River	Monongahela River	Monongahela
Chemung River	NB Susquehanna River	UNB Susquehanna River
Clarion River	Allegheny River	Middle Allegheny
*Clarion River, East Branch	Clarion River	Middle Allegheny
Clarion River, EB Middle Fork	East Branch Clarion	Middle Allegheny
*Clarion River, West Branch	Clarion River	Middle Allegheny
Conemaugh River	Kiskiminitas River	Lower Allegheny
Conemaugh (Little) River	Conemaugh River	Lower Allegheny
*Conemaugh (Little) River, NB	Little Conemaugh River	Lower Allegheny
*Conemaugh River, S. Fork	Little Conemaugh River	Lower Allegheny
Cowanesque River	Tioga River	UNB Susquehanna
Cowanesque River, North Fork	Cowanesque River	UNB Susquehanna
Delaware River	Delaware Bay	Delaware
Delaware River, West Branch	Delaware River	Upper Delaware
Elk River	Chesapeake Bay	Lower Main Susquehanna
*Genesee River	Lake Ontario	Genesee
*Genesee River, Middle Branch	Genesee River	Genesee
*Genesee River, West Branch	Genesee River	Genesee
Juniata River	Susquehanna River	Susquehanna
*Juniata River, Frankstown Branch	Juniata River	Upper Juniata
*Juniata River, Raystown Branch	Juniata River	Upper Juniata
Juniata (Little) River	Frankstown Branch	Upper Juniata
Kiskiminitas River	Allegheny River	Lower Allegheny
Lackawanna River	NB Susquehanna River	LNB Susquehanna
*Lackawanna River, East Branch	Lackawanna River	LNB Susquehanna
*Lackawanna River, West Branch	Lackawanna River	LNB Susquehanna
*Lackawaxen River	Delaware River	Upper Delaware
*Lackawaxen River	Lackawaxen River	Upper Delaware
*Lehigh River	Delaware River	Middle Delaware
Mahoning River	Beaver River	Main Ohio
Monocacy River	Potomac Creek	Potomac
Monongahela River	Ohio River	Monongahela
Ohio River	Mississippi River	Ohio
Potomac River	Chesapeake Bay	Potomac
Schuylkill River	Delaware River	Lower Delaware
Schuylkill River, West Branch	Schuylkill River	Lower Delaware
Schuylkill River, West-West Branch	W. Branch Schuylkill River	Lower Delaware
Schuylkill (Little) River	Schuylkill River	Lower Delaware
Schuylkill (Little) River, East Branch (or Still Creek)	Little Schuylkill River	Lower Delaware
Schuylkill (Little) River, W. Branch	Little Schuylkill River	Lower Delaware
Shenango River	Beaver River	Main Ohio
Shenango (Little) River	Shenango River	Main Ohio
Susquehanna River	Chesapeake Bay	Susquehanna
Susquehanna River, North Branch	Susquehanna River	Susquehanna
Susquehanna River, West Branch	Susquehanna River	Susquehanna
*Tioga River	Chemung River	UNB Susquehanna
Youghiogheny River	Monongahela River	Monongahela

* See following list for rivers and sections in which fishing is prohibited.

IE FOLLOWING IS A LIST OF RIVERS, OR SECTIONS OF RIVERS, LAKES, AND PONDS WHICH ARE STOCKED WITH TAKABLE TROUT BY THE COMMISSION, AND IN WHICH FISHING IS PROHIBITED FROM MIDNIGHT MARCH 14 UNTIL 5 A. M. APRIL 15, 1951

RIVERS

legheny River, Potter County—Stocked from the vicinity of Couders-port upstream to the vicinity of Seven Bridges, about 8 miles.

rth Fork of Little Beaver River, Beaver County—Stocked from the vicinity of Darlington upstream to the Beaver-Lawrence County line, a distance of approximately 5 miles.

st Branch of Clarion River, Elk County—Stocked from the vicinity of Instanter to Glen Hazel, 7 miles.

est Branch of Clarion River, Elk County—Stocked from a point known as Rolfe, just north of Johnsonburg, upstream to vicinity of Wilcox, 6 miles.

rth Branch of Little Conemaugh River, Cambria County—Stocked from above the Wilmore Dam upstream, 4 miles.

uth Branch of Conemaugh River, Cambria County—Stocked from where the road crosses the stream above Lloydell upstream to Summit Hill Water Company Dam, 3 miles.

nesee River, Potter County—Stocked from the New York State line to West Bingham, 5 miles.

iddle Branch of Genesee River, Potter County—Stocked from the vicinity of Harmonstown upstream to George Williams farm, 6 miles.

est Branch of Genesee River, Potter County—Stocked from the vicinity of Ellisburg to Genesee, 5 miles.

ankstown Branch of Juniata River, Blair County—Stocked from the mouth of Pine Run downstream, to McDonald Run, 9 miles.

ystown Branch of Juniata River, Bedford County—Stocked from the vicinity of Bedford upstream to Somerset County line near New Baltimore, 18 miles.

st Branch of Lackawanna River, Susquehanna County—Stocked from the vicinity of Herrick Centre upstream to near the source, 5 miles.

est Branch of Lackawanna River, Susquehanna County—Stocked from the mouth (near Uniondale) upstream to Burnwood, 5 miles.

ckawaxen River, Pike County—Stocked from the vicinity of Lackawaxen upstream to Pike-Wayne County line, 12 miles.

ckawaxen River, Wayne County—Stocked from the vicinity of Prompton upstream to the source at Beaver Meadow Reservoir, 22 miles.

high River—Stocked from about two miles below White Haven upstream to the source. This would include section bordering on Luzerne and Carbon Counties, Monroe and Luzerne Counties, Lackawanna and Monroe Counties, Wayne and Lackawanna Counties—a total distance of about 30 miles.

Tioga River, Tioga County—Stocked from the bridge above Blossburg upstream to the last bridge in this County on this stream, 9½ miles.

LAKES AND PONDS

Adams County—Hartman Dam on Marsh Creek—3 acres in Franklin Township. Chambersburg Water Company Reservoir on Birch Run—22 acres in Mountain Township.

Bedford County—Thomas W. Koon Lake on Evitts Creek—268 acres in Cumberland Valley Township. Beaver Run Rod and Gun Club Dam on Beaverdam Creek—1 acre in Kimmall Township. Replogle Dam on Yellow Creek—6½ acres in Woodbury Township.

Centre County—Metzgers Dam on Spruce Creek—1½ acres in Ferguson Township. Roosevelt Dam on Stoney Creek—3 acres in Potter Township. Penns Cave Dam on Penns Creek—4½ acres in Potter Township. Poe Valley Dam on Big Poe Creek—27 acres in Penn Township. Green Valley Dam on Little Fishing Creek—2 acres in Walker Township.

Clinton County—Woolrich Water Company Dam on Chatham Run—5 acres in Pine Creek Township.

Cumberland County—Wade Dam on Hogestown Run—3 acres in Silver Springs Township. Boiling Springs Lake on Yellow Breeches Creek—9 acres in South Middleton Township. C.C.C. Dam on Halry Spring Hollow Run—3 acres in Southampton Township.

Erie County—Lake Pleasant on Branch of Alder Run—60 acres in Southwestern Venango Township.

Forest County—Ward Ranch Pond on Coon Creek—10 acres in Kingsley Creek Township.

Huntingdon County—Greenwood Furnace Dam on E. Br. of Standing Stone Creek—3-34 100 acres in Jackson Township. Whipple Dam on Laurel Run—15 acres in Jackson Township. Barree Dam on Barree or McClain Run—2 acres in Potter Township.

Jefferson County—Manner Run Dam on Manner Run—1 acre in Polk Township.

McKean County—Kushequa Pond on Kinzua Creek—13 acres in Hamilin Township.

Monroe County—Snowhill Lake on Mud Run—3 acres in Price Township.

Montgomery County—Upper Perklomen Valley Park Lake on Deep Creek—38 acres in Upper Frederick Township.

Snyder County—Melsers Mill Dam on West Branch of Mahantango Creek—2 acres in West Perry Township.

Union County—Halfway Dam on Rapid Run—6 acres in Hartle Township.

IMPORTANT TO FISHERMEN!

SPECIAL NOTICE!

"By Special Amendment of the Fish Laws passed by 1949 Legislature--All Fishing is Prohibited in Any Waters from Midnight, March 14 to 5:00 A.M., April 15, 1951, Except in Rivers, Lakes or Ponds Not Stocked with Trout."

PENNSYLVANIA FISH COMMISSION

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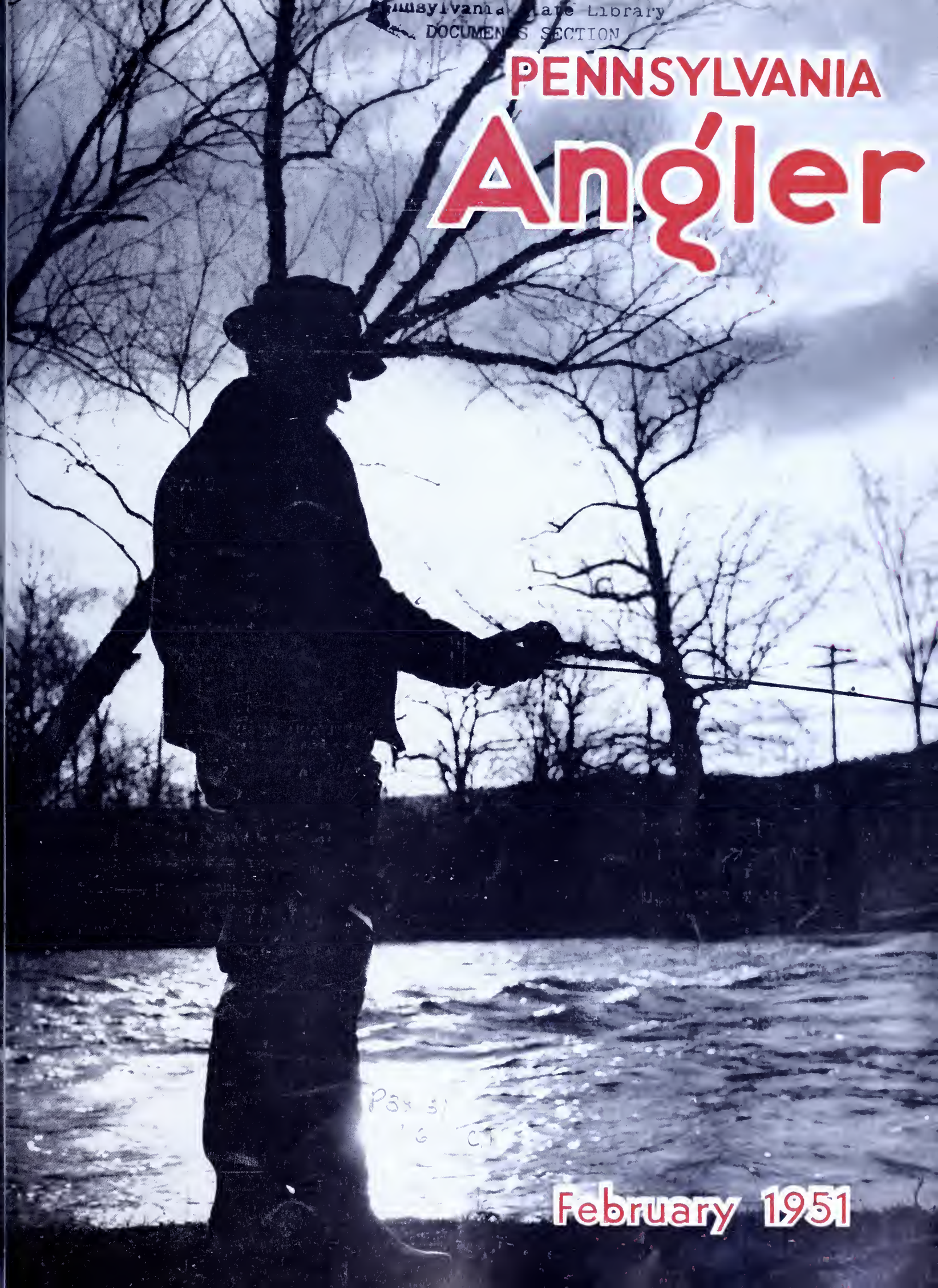

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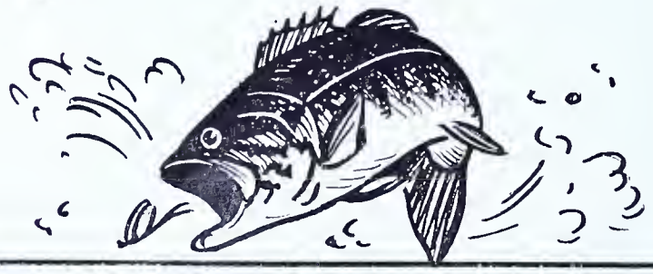

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
FISH COMMISSION
HARRISBURG, PA.

The Angler

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Silhouette from an early morning angle.

Photo by James Balog

This simple prayer which voices the fault and need of the white man in regard to his attitude to the soil was delivered by an Indian at a Conference in Oklahoma. It was printed in the Summer issue of THE LAND.

Hear us, oh Great Spirit in the sky. Our people are very old people. We lived in this land thousands of moons before the White Man came. His way of life differed from ours. For many seasons there was bitter strife between us. Now there is peace but the heart of the Red Man is sad, for the White Man has destroyed many of Nature's most bountiful gifts and has forgotten that all things come from Mother Earth and go back to her.

The White Man thought we were slow in our lives. Our sons lived like their fathers and grandfathers. We did not make many things. Our poems and our stories were spoken: we listened to the music of the flutes; but we did not record them on paper. Words of wisdom were spoken in the councils and our young men remembered.

We lived simply and near to the earth. In the voices of the earth and the running waters and the wind in the sky we heard the sayings of the Great Spirit who made all things and gave them to us. From the muskrat and beaver and squirrel we learned of the coming seasons. When the waterfowl flew north we knew that soon the snows would fade and the little streams would run again. We watched the wolf and deer and rabbit and the fish in the streams and learned how they live and how all men should live, even though they have great knowledge of books and machines. We knew how food comes from the earth, and the sap of plants and trees was like milk which the babe draws from its mother's breast. We knew that the Great Spirit would not have us make wounds in the tender flesh of the land or destroy the way of growing things. We lived happily in a land where grass and trees never failed for thousands of moons and where meat and skins were plentiful.

Sad were our hearts when the White Man made great wounds in the earth in his haste to take riches from the soil of our fathers. From these wounds gushed reddened waters—life blood of our land—into the streams and on to the Father of Waters. We were sad, for with the wisdom of a thousand moons we knew that when the water runs red or brown our land is losing its strength and our grass and trees wither. We knew that in a few short years the work of nature for thousands of years would be no more.

Oh, Great Spirit, bring to our white brothers the wisdom of nature and knowledge that if her laws are obeyed this land will again flourish and grasses and trees grow as before. Guide those who through their councils seek to spread the wisdom of their leaders to all people. Heal the raw wounds in the earth and restore our clear and beautiful streams. Bring again the sparkling waters from our springs and restore to our soil the richness which strengthens men's bodies and makes them wise in their councils. Bring to all the knowledge that great cities which are planned live only through the bounty of the good earth beyond their paved streets and towers of stone and steel.

MEMORIES ON FILM

By DICK FORTNEY

Back up your fish stories with actual photographs. Maybe it's trouble and fuss to carry a camera but you'll never regret it.

Did you ever try taking home a fish on film instead of in a creel?

The idea has a number of good points.

For one thing, you don't have to kill a fish in order to get its picture. For another, a fish on film can last forever, while a fish in a creel is quickly gone and easily forgotten.

Besides, if you're one of the growing number of anglers who fish for fun, putting back their trophies instead of killing them, pictures of the trout and bass and pike you released will answer all the doubting Thomases who have not yet learned this lesson of conservation.

A friend and I met another fisherman on a lake one day.

He asked the customary question: "How are they biting?"

"Swell," my friend replied.

"Any big ones?" the stranger asked.

"A couple," responsed my companion.

"I'd like to see them," said the stranger.

"Oh, we took their pictures and put them back," said my friend.

And that guy rowed away from the scene still thinking we were liars, even after we showed him our cameras.

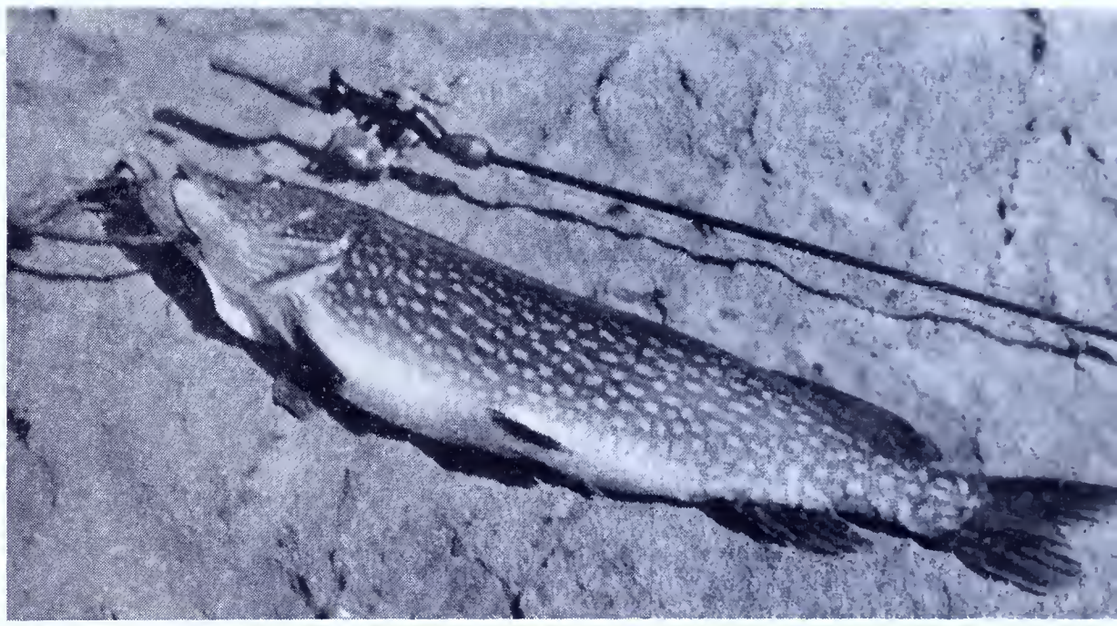
We spent two weeks on that fishing trip, and we caught fish every day. But we actually killed only 21 of them, which we ate for lunch.

But we came back home with a swell collection of black and whit prints and colored slides—and als about 400 feet of colored movies— o big bass, pike, and walleyes.

The fish we ate already are for gotten. The ones we photographe can be looked at and admired agai as often as we wish the rest of ou lives.

Taking pictures of fish is only on angle of the matter, however.

Human memory can fail, but whe incidents that amuse or thrill ar recorded on film, they become lastin treasures. That fact is especially im portant for fishermen, for every fish ing trip or fishing vacation produce incidents the angler wishes to re member and to talk about long after ward.



eft: Pohopoco Creek near Kresgeville, Pa. in e Poconos. Photo by James Balog.

ight: Take pix of friends cooking the noon- y meal along shore of lake or stream.

ight center: A fish placed beside a rod will licate size. This pike weighed nine pounds.

ower right: A pix of your fishing buddy awing on a sandwich is more interesting than ving him just "mugging" the camera.

There is no need to discuss in this ticle cameras and other photographic uipment or to debate the relative erit of black and white prints and lored slides. Those things depend how much money the angler is illing or able to invest in cameras d on whether he prefers to see his hing pictures in an album or on a reen.

Instead, we would like to offer some ggestions about picture subjects and just what a film record of a fishing ip should include.

No. 1 requirement, for obvious rea- ns, is a set of pictures of the fisher- an and his companions.

Try not to make them stilted, stiff ses. Take a shot of Bill munching ham sandwich. Get one of Pete anding up to the top of his boots a stream pool. Get, also, pictures of ur pals casting, fighting a fish, or ading a trout or bass into the land- g net. Take the pictures while the llows are doing something interest- g, not just standing around or look- g straight into the lens of the camera.

In the second place, make a record the place you fish. If it is a stream, ou will find countless opportunities photograph waterfalls, riffles, and ools. Be alert for attractive settings. atch for the chance for a shot that ill be typical of the country—if you re fishing a river, take pictures that ow broad expanses of water, with ills in the background, if a little trout ream, look for pictures that will be istinguished by miniature waterfalls, cky pools, and riffles; if a lake, weed eds or rocky shores will put a sure bel on the view.

But don't try to take in too much erritory. Remember that your amera, even if it is an expensive one, as certain limitations. It is far bet- er, for example, to take a close-up icture of a pretty little lake bay han it is to try to get half the lake a single shot.

Taking pictures of the fish you catch revents a wide variety of points of iew and picture composition.

If you are photographing a real unker, have one of the members of

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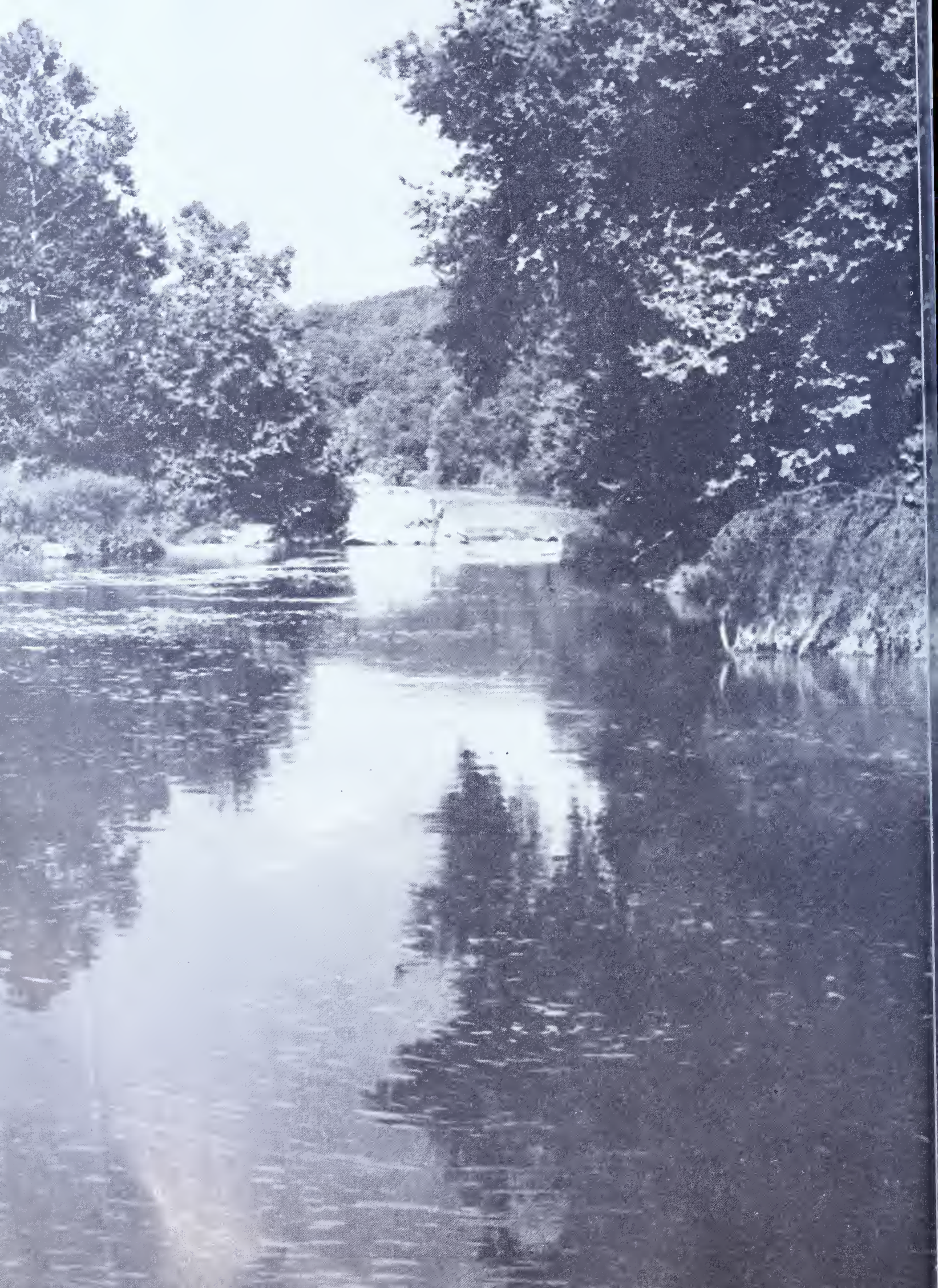

PROGRESS REPORT

ON

The Acquisition of Land and Fishing Waters

By EDWARD F. WESTLAKE, JR.
Assistant Aquatic Biologist
Pennsylvania Fish Commission

Money alone cannot add to the miles of streams available to fishermen in the Keystone State. Relations between landowner and angler, will, in the long run, be a determining factor in the final result.

FOR some time it has been realized by the Fish Commission and the sportsmen that the mileage of streams available to fishermen is steadily declining. In 1947 the Pennsylvania General Assembly passed Act No. 283 which became effective January 1, 1948. It provided that 25 cents from each fishing license would be set aside for:

1. The acquisition of land and fishing waters;
2. The rebuilding of torn-out dams; and
3. The study of problems relating to better fishing.

I will discuss progress concerning the first of these three purposes, namely, the acquisition of land and fishing waters.

Since the passage of this Act, preliminary planning to put it into operation has been carried out. Other states have been contacted to see which had such a program and to study their approach. The compilation of the findings was studied with the view toward adapting the best of their ideas to our own particular needs and organization. New York State's program appeared to be most nearly what was necessary here but it was only partially usable.

The biological records of the Fish Commission on all possible streams in the State were then studied to pick those best suited for purchase.

Last year steps were taken to begin purchase. Milton L. Peek, President of the Pennsylvania Fish Commission, appointed Paul F. Bittenbender, Member of the Fish Commission, Chairman of the Stream Purchase Program and I, as Assistant Aquatic Biologist for the Fish Commission, was asked to take direct charge of actual purchasing.

The Fish Commission decided to study New York's program at close range and Mr. Bittenbender was authorized to make arrangements with the New York Conservation Commission for me to visit and discuss with them their fishing rights stream acquisition program. During the summer of 1950 I visited the New York Conservation Commission and spent considerable time with those directly in charge, obtaining answers to questions which were uppermost in the minds of our organization in initiating and carrying out a similar program. Details of procedure were also carefully studied. A visit was made to certain streams which had been suggested by the New York officials as good examples of streams on which fishing rights had been acquired by them.

On the basis of this New York trip, previous material compiled from other states, and our own particular needs, the following program was tentatively set up by which we hope to acquire permanent fishing rights on good fishing waters throughout the State.

Streams are to be considered first priority with particular reference to trout since they have suffered most in the decline of mileage open to public fishing. Further expansion of the program to lakes and warm-water streams will be considered as the program expands.

These streams must be at least five miles long and must show according to Fish Commission records good biological conditions throughout the year. Sixty-nine major streams were selected on this basis as suitable for possible acquisition at this time. Further study will probably add to this group. A small group of the very best of these sixty-nine streams has been singled out for immediate work.

The method of acquisition consists of securing an agreement from the landowners for the conveyance by warranty deed after examination and approval of title by the Attorney General of an easement described in the agreement as "the exclusive and perpetual easement, right, occupation, and control" for use as a fishing ground by the public in the bed of the stream and for a specified width on each bank of the stream.

These rights of way generally extend for a distance of from 15 to 50 feet from either bank and include at intervals additional entrance rights of way from the nearest highway. The agreement also provides that the Fish Commission may install stream improvement devices for the improvement of fishing, the planting of cover where necessary, erosion control, and the posting of such signs and posters as are deemed necessary. Camping will not be permitted and fires will be built only at designated points. It is hoped that it will be possible to erect stiles over fences along this corridor of the stream.

Due to the present prosperity, land

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Still fishing is just what the doctor ordered. It's restful, relaxing and often surprisingly productive.

THE BIG DITCH

By N. R. CASILLO

Dropping a line in a ditch seems loco, but when it's in the historic Erie Canal you're liable to find a variety of finny customers waiting to smash the equipment.

UPON arriving at the considerable stretch of water, Lou announced, "This is supposed to be a part of the Erie Canal."

"I don't mind that just so's there're fish in it," wisecracked Bill.

The water looked good. The sandy embankments of the Bessemer railroad stretched interminably along its western bank while willows and other water-loving plants grew thinly along the edge of the opposite bank. Its width varied from a couple of dozen to more than three-score feet, and I found out later that its more or less continuous length starts a short distance south of highway route 285 running along the southern edge of the famous Pymatuning Waterfowl Refuge, and ends at Hartstown on routes 18 and 322.

My first visit there under the expert guidance of Lou Kelliher was undertaken in conditions calculated to discourage any but the most avid fishermen. Bill Guiney, the third member of the party, finally summoned enough courage to leave the cosy car in which we were parked awaiting a letup in the torrential downpour that had overtaken us on the way out.

"Come on, let's go," said Bill, slipping out of the back seat and tightening the collar of his oilskin before assembling his flyrod.

Without a word, Lou and I stepped out into the downpour. It was like taking a cold plunge. The dash of water that found its way down my back made me gasp.

After crossing a sodden meadow we arrived at the edge of the canal. From there we barged through a patch of cattails growing in the shallow water to get to the firmer footing of the railroad embankment.

"I'm wet," said Bill.

I gave him an eloquent look, but it never got through the murk.

Lou selected what looked like a hot spot and pitched his feather lure on the water. It was immediately obliterated in the swelter of raindrops. Anyway, he methodically went about the business of retrieving it.

For a full half hour we threw them everything we had that could be handled with flyrods, but without the slightest suggestion of action. It was a watery void so far as we were concerned. We returned to the car defeated, wet, and cold, but convinced that the place was good.

Some days later I chanced upon Tid Sheldon, the Crawford county fish warden and asked him about the fishing possibilities in th canal.

"Under the right conditions it's a hot spot," came his ready reply.

"Is there anything else in there besides the largemouth bass that I've already heard about?"

"Lots," he came back, and continued with a truly varied list of fish. "Even northern pike are found in it," he added as a sort of an afterthought.

Since I consider Tid a reliable and straight-forward expert on the local fishes as well as the fishing, I resolved then and there that I would lose but little time in getting back to the big ditch.

While awaiting the opportunity to return I did a bit of research and unearthed some very interesting facts. In the first place what is locally called the Erie Canal is really an extension canal formerly running from New Castle to Conneaut Lake. Anyway, that's what I was told by a long-time resident despite the fact that a thorough investigation of the area failed to disclose the place where the waterway should have swung eastward toward the lake.

Also, the historical marker on highway route 18 near the Crawford-Mercer county line states in part that the waterway extended from the Beaver Division Canal, at New Castle, to Erie. This part of the Shenango line north to Conneaut Lake, was completed in 1842, and in use until 1871.

Indeed, the more I delved into the matter the more confused I became. One thing is certain and that is much of western Pennsylvania was once ramified with a network of transportation waterways. And what is more important, the historical significance of the waterways has no bearing on their piscatorial qualities. On the other hand, it seems to me that a knowledge of their past history would enhance them to a fisherman so inclined. By the same token, some anglers would get a kick out of fishing the Dove even though they caught nary a fish; especially so if the stream looked as if it had what it takes.

In the soft light of a waning day in late May, with growing thing just about as green as they ever get, while

rds in variety filled the air with ellifluous song, the spot on the nal to which we resorted was such to make one glad that he was still ve in a world so full of woe. That's ght, I did not get back to what now oked like an enchanted spot, until e following year.

Tid Sheldon's latest account of the emendous bullheads inhabiting the ol depths of the canal as well as its stalgic magnetism were too much r me to resist.

Accompanied by two kindred spirits, on companions who had stood the st of time and what is more imrtant, fishermen who did not disinfully turn up their noses at the wly bewhiskered bullhead, we rked the car on the dirt road and ade across the rich grass field.

What a difference the weather akes. It was difficult to even imagine at this was the same rain sodden ld we had trod but a short year fore. The air was soft but stimulatg if you can picture that apparent congruity. The numerous bobolinks ed with one another as torrents of ng cascaded from their throbbing roats.

"It's good to be alive on a fine May y," poetically reflected Bill Klee. 'eah, this is the kind of a day that ould cause the most unpoetic to sh reams of iambic pentameter," gratefully added.

"I feel it in my bones that something citing is going to happen," volubly bbled Doc Rogers.

"It will," affirmed Bill. "You'll obably fall in."

That evening we had the unique perience of watching the antics of bunch of black terns, the domestic tivities of a pair of Canada geese, e peregrinations of a couple of busydy muskrats, and also caught fish.

Properly prepared, chunky bullheads are savory eating.

We tried plugs and other bass and pike enticers until darkness began hemming us in. We tried hard for almost four hours and managed to snag a solitary bass, a sickly specimen which looked the worse for wear; a missing pelvic fin and its associated muscular support pointing to the work of a snapping turtle. The big reptiles were much in evidence.

When the frogs and kindered amphibians opened with their deafening chorus we took up our bait rods and sprawled out on the sandy embankment overlooking a deep hole.

"I hope the bullheads are more cooperative than their diurnal relatives," remarked Doc as he heaved his bait into the darkening water.

Our bait consisted of worms, big succulent fellows calculated to tickle the palate of the fussiest bullhead. However, I have yet to see the bullhead that was the least bit discriminating. As many better equipt that I have written, its cosmopolitan appetite being adverse to neither a long defunct piece of bull neck or orodiferous chicken entrails.

Almost at once Bill got a hit, a lusty strike so characteristic of some large bullheads. Most of them as all confirmed bullhead fishermen know, are content to swallow the bait and then digest it at their leisure right on the spot where they found it, their dim brains possibly sensing that they've hit the jackpot.

Bill closely followed the maneuvers of his prospective quarry. When the fish momentarily paused before again making off, the fisherman remarked, "If it wasn't because I know that it couldn't be so, I'd say that what I have on is a bass."

Scarcely ten-seconds after Bill made the statement, he jumped to his feet and yelled, "Yipe, it is a bass! Look at him go!"

Without thinking of the consequences, I grabbed the flashlight reposing beside me on the rock and turned its beam on the scene of action.

The fish had surfaced and the sudden bright light sent him down with that familiar SWHOOSH so dear to the ears of bass anglers.

The pause which followed my foolhardy action made me fearful of the worst. Suppose the fish had broken the line and made its getaway.

Suddenly, I was electrified and relieved by an ear-splitting "Whoopie!"

"The man's gone plumb loco," scornfully observed Doc as he calmly dunked his newly baited hook. "Why, you'd think that he had never before caught a fish." With that he resumed his seat and lighted a cigaret.

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Almost at once Bill got a strike. "It's a bass!" he yelled.

AMERICAN FISHING BOOKS

By Charles M. Wetzel—Part 2

Continuing the history of angling in America, the Author in this issue, reveals interesting facts about early fishing tackle and how it developed.

FAC SIMILE OF THE ORIGINAL "SPOON BAIT," FIRST ONE EVER MADE, INVENTED BY JULIO T. BUEL IN 1834

EARLY AMERICAN FLY FISHING EQUIPMENT CIRCA 1830-1840

"Two flies are generally used, termed technically a dropper and a stretcher, the latter being at the extremity of the line, and both made to remove at pleasure by a simple arrangement of the casting line. When three flies are used, there can be no better arrangement for them than the following. The first drop fly to be thirty inches from the stretcher, the gut only four inches long and of the stoutest kind. The second drop fly to be thirty-five inches from the first, and the gut eight inches long. The advantage of observing this fixed distance between the flies, is that of their all three coming in contact with the water in the ordinary position of the line after it is cast.

"Highly as we appreciate it as a pleasing resource to the angler, and forming one object for the exercise of his skill, it is not intended to add to these remarks our own experience in the art of fly making; it will however be proper to state the names of those mentioned in the books on angling—where ample directions may be seen—of such as are said, and we have proved to be, standard flies, that is, such as are found to be good at all times and in all places. They are the Palmer flies, namely the red hackle, yellow hackle, grouse hackle, etc., and wing flies such as the green drake or mayfly, the march brown, and indeed any and all of that class of insects known by the name of *Phryganeae* and *Ephemerae* to which may be added the grasshopper as well as beetles, for there is hardly any insect that flies including the wasp, the hornet, the bee and the butterfly, that does not become at some time the prey of fishes."

From the above it will be seen that very little original material appeared in the book on the subject of flies, all of them being designed after English or Scotch patterns, and it is unnecessary to add that the method of fishing was exclusively with the wet fly.

As we have noted before, fly fishers were few and far between but, with the advent of Smith's work, the sport began to take hold. From now on followed a steady stream of progress, both in equipment and literature, which has not yet reached its culmination; maybe it never will.

Perhaps it would be well at this point to take note of a revolutionary angling implement, that is the first spoon bait invented by Julio T. Buel of Vermont, in 1834.

It is said that while fishing and eating his lunch one day on Lake Bomosene he accidently dropped a teaspoon overboard, and as it twisted and turned in sinking, a large fish struck it before it reached the bottom. The accident resulted in the invention of the spoon hook, a device, which in its present day perfected form, has probably been the means of capturing more fish than any other single lure.

This first spoon hook was made from an old brass tablespoon, polished on the convex side, with a hook soldered into its end, and a line tied through a hole in the other end. With this lure, Buel caught fish in numbers and of a size that astonished all the old anglers of that day. He applied for a patent, the first one ever granted in this country for trolling spoons and spinning baits. The excellence of his lure becoming known to fishermen, orders for them were received in such numbers from all parts of the country, that, in 1848, he was literally forced to engage in the manufacture of Buel's spoons on a large scale.

William H. Schreiner, in his *Sporting Manual,* 1841, made a considerable contribution to the existing knowledge of fly fishing as practiced in the early days. He wrote:

"The Sea Grass Line from Canton, is an excellent line for ordinary angling, but cannot always be procured of sufficient length for fishing with a re By late experiments it has been asce tained that this article is the produ of the silk worm, and hence an anim instead of a vegetable substance formerly supposed.

"The Hair Line is frequently use and makes a very good running lin but is especially applicable to throwi the artificial fly, for which purpose is made large at one end, and tape gradually to the other.

"The Salmon Line is composed thirty or forty hairs, the common si from twelve to eighteen, and are ma either of black or white hair, the latt is sometimes colored blue or gree others are made with hair and si spun together; the principal advanta of the hair line is their elasticity, r sistance to water, running more free over bushes, and not being so liab to entangle as the others. The best ha lines may be made by a very simp process as follows; in three quills op at both ends, place as many hai equally divided, as you intend sha form the line; now fit a pine plug each quill, having the hairs all ev at the small end of the quill. Then t those in the three quills together, dra the hair so far through as will bri the shortest hair to the large end the quill, (every hair in the small qu should be of different length) no force the plugs in tight enough to pr vent the hairs from turning; hold t knot firmly in the left hand, and twi the three strands simultaneously rolling the quills under the hand up the knee. When the strands are w twisted, they may be laid together permitting that part in the left ha to turn gently and cautiously, no loosen the plugs and feed in other hai to take the place of those just used u and so proceed until the line is the d sired length, after which trim off t ends of the hairs with sharp scissors

The above is the only American re ord I have been able to unearth th gives simple and complete directio for constructing a tapered hair lin The method of using quills fitted wi pine plugs, and rolling the hair up the knee is distinctly American. Fra Bressler of Lock Haven, Pa., an ol time fly fisher, helped his father a grandfather make many a horseha line when a boy and his method, shown to me, was very similar to t above.

Schreiner mentions that:

"The fly rod is made of hickory Brazil wood and is large in the gras or for about fifteen inches from t butt, then rapidly diminishing for few inches, and afterwards gradual tapering to a fine point; they are ringe and have flat loops on those ends whic fit together, whereby they may be s cured in that position."

)irections for tying and throwing fly are also included in the *Sport- Manual,* as well as information on reel and the flies then in current . Among the latter will be found March Brown, Red Fly, Blue Dun, llow May, Grey Drake, Shorn Fly, ne Fly, Sky Blue, Red Spinner, ie Gnat, Red Ant Fly, Black Ant , Whirling Blue, White Moth and)wn Moth. As you will observe ctically all of the above are of glish origin with the exception, sibly, of the last two, which I be- e are the well-known Heath Moths,)ular patterns of about seventy-five rs ago.

Among the earliest contributors to annals of American sport was lliam Post Hawes, whose articles peared under the nom de plume of Cypress, Jr. Hawes was a prolific ter and contributions from his pen peared in *The American Monthly gazine, The Mirror, The New York ndard,* the *New York Spirit of the nes,* and the *American Turf Regis- and Sporting Magazine.*

His premature death on March 23, 1, at the early age of thirty-eight rs, in consequence of a severe cold, noved from this world a clever iter and one whose knowledge of rt was far-reaching in its scope. obituary entitled *To the Memory Cypress* was written by William nry Herbert— a young Englishman whom more later—and was pub- ied in the *American Turf Register l Sporting Magazine* for May, 1841. ter on, Herbert collected the major- of Hawes' writings and published em in two volumes under the title *orting Scenes and Sundry Sketches, ing the Miscellaneous Writings of Cypress, Jr. edited by Frank For- er,* the latter being a name destined become famous and go down in his- y as that of one of the greatest rting writers of this country. This the first book that bears Herbert's eudonym, Frank Forester.

Sporting Scenes and Sundry etches contains some unusually fine el sporting engravings representing rout Fishing on Long Island," "Wild ick Shooting," "Woodcock Shoot- g," "Snipe Shooting," etc. Among e humorous articles may be found *re Island Ana; or, a Week at the re Islands.* A more serious tone is ected into the *Controversy Con- rning the Genera etc. of Quail and rtridge* and the discussion by the rticipants, J. Cypress Jr., H of Mari- a, Pa., and Frank Forester grows her warm.

In 1845, Frederick Tolfrey brought th *The Sportsman in Canada.* Pub- hed in two volumes, this work is a dmark in that, for the first time, a scription of American salmon fishing is presented. The author, intrigued by a pair of pretty legs and a face and form to match, was shipped off to Canada in the service of the Government by an irate London father who did not exactly approve of this rapidly growing intimacy. Somewhat addicted to the bottle, yet withal a clean sportsmanlike young man, Tolfrey, a clever writer and friend of Frank Forester describes his salmon fishing experiences with Major Browne on the Jacques Cartier water in a most delightful and informative way. The following may prove of interest as it is considerably ahead of its time, and describes what may be considered the precursor of our present day, highly finished fly lines.

"Having examined all the rods, for they numbered nearly a dozen, I returned with the Major to his piscatory boudoir, where his store of lines and flies were exhibited for my inspection. I have said that I was astonished at the rods: the rest of the tackles afforded no less cause for wonderment. The Major's salmon lines were composed of . . . laugh not, good reader, although smile you must I fear . . . whipcord!!—at least so he told me; and I had afterwards knowledge of the fact, for I used nothing else myself. But the original fabric was in no way distinguishable; so much so, that I, in the innocence of my heart conceived the supple sample before me to have been a kind of round and pliant weed.

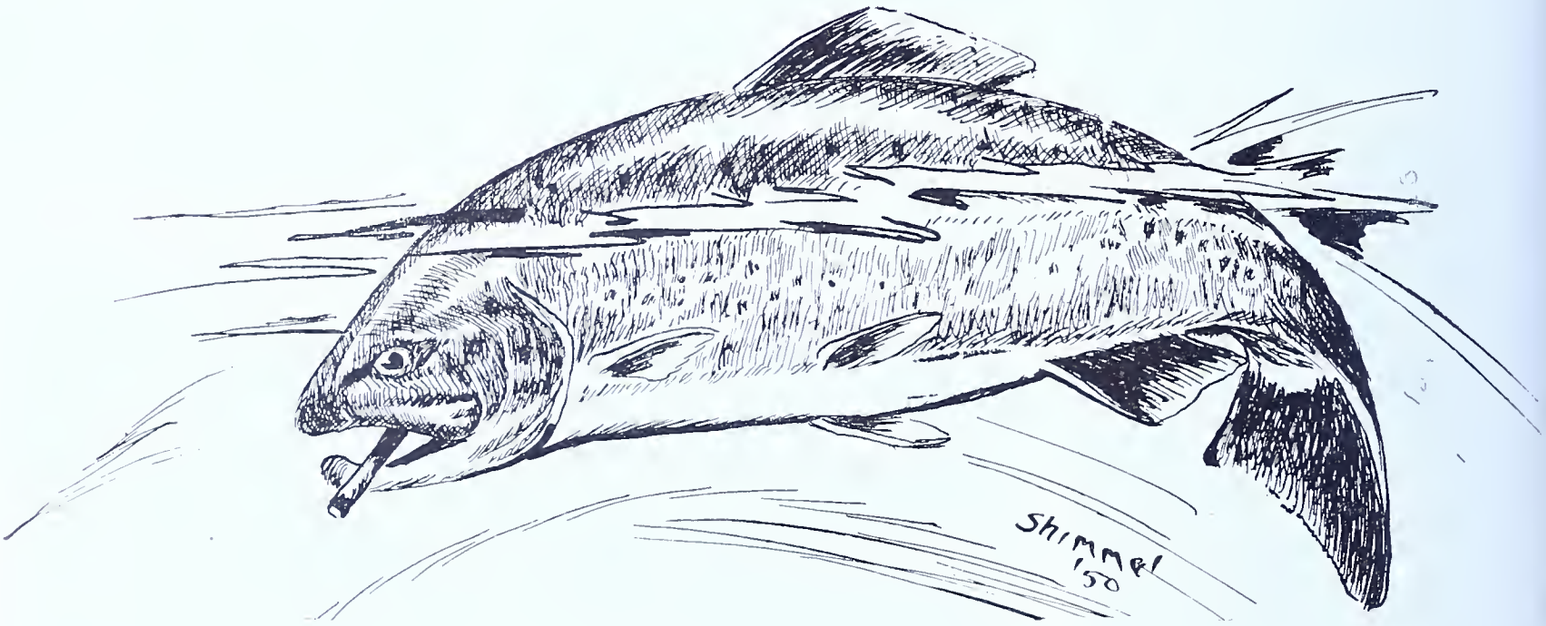
"The delighted Major soon explained the mystery, and imparted to me the secret: it was this—having provided himself with some sixty yards of the finest and best manufactured whipcord which he invaribly imported from a noted twine and net warehouse in the city . . . he steeped it in twice-boiled linseed oil for some six or eight months during the winter. By reason of this immersion the fibre in the line was completely hidden, and it

(*Turn to page* 17)

Trout Troubles

By ALBERT G. SHIMMEL

Anyone figuring on showing a trout who's boss is asking for trouble, especially when that trout has a yen for the deep shades of lipstick!



There is a fascination about the little mountain brooks and broader streams of the valleys that cause the most casual visit to them to be, in itself, a small adventure. If there is attraction for human kind in these clean flowing waters, they are a powerful magnet that draws most living creatures whether clad in fur, feathers or scales to seek them for food, drink or diversion. We who follow the streams regularly, year after year, get intimate glimpses of the private affairs of nature's children that multiply many times the pleasure of our conquests. Each year brings changed experiences that are set against the familiar backdrop of our favorite streams until they fill the kaleidoscope of memory. How much they add to our sport is a matter of conjecture.

The finny inhabitants of these waters are themselves creatures of mystery and fickle disposition. These are the things that draw us back season after season to familiar pools and ripples, that take root in our philosophy and make angling the sport that appeals to youth and age.

The water was in fine condition with a trout dimpling the flat glides often enough to make the fishing interesting. A sporadic hatch of gray midges with black bodies accounted for the activity. A brace of better than average trout graced Chet's creel while one good one nestled among the hemlock tips and water cress, made a satisfying pull against my shoulder harness. A No. 18 short shanked Badger Midge with black body and slate wings had proved the acceptable pattern, the 5x leaders made careful handling a necessity. It had been Chet's suggestion that we spend the afternoon with the canny trout at the bend.

We had discovered him early in the season and it had become a habit to spend a few minutes with him each time we passed his hideout. Protected as he was by the mirror smooth glide, split currents and deep streamers of dark moss he had proved a match for our casual efforts. Today we would work seriously at the problem.

He lay in plain view beside a protruding bit of limestone flanked on either side by waving moss. Every few minutes he would move leisurely to the surface and take one of the floating midges. The very sureness with which he fed seemed to indicate scorn for the anglers who had presented their lures in this hard fished stream. Selecting a position where he could float his midge undisturbed by drag Chet began a slow methodical cast which put the fly over his lie after each rise. I sat in the shade of the silver maple that grew conveniently near and watched with a rather lazy interest. Perhaps a half hour passed before the trout lifted to the lure but turned away short just as he seemed about to take. A moment later he took another floating midge.

Chet came up to my shady spot and sat down mopping the sweat from his forehead. We went through our books, selected all our small lures. I took my place and began to offer lures. A half hour and four patterns later I conceded defeat and climbed the bank. He had continued to feed slowly and deliberately as before. Once he had splashed a brown midge nymph that drifted an inch or two beneath the surface. At other times he remained quiet until the artificial had drifted over him then returned to taking naturals.

A lady angler entered the stream some distance above and cast a wet fly across the current. Hooking her rod under her arm she selected a cigarette from her pack and lit it as the fly swung down and across. A fingerling hung himself and we watched with idle curiosity as she released him and changed flies. Finishing her cigarette

(*Turn to page* 24)

CLEANUPS STATE-WIDE TO COST 22 MILLION

The job of cleaning up the streams of pollution caused by sewage is being carried on over a wide front throughout the State, according to a compilation made by the Bureau of Engineering, State Department of Health which is executing the Clean Streams program for the Sanitary Water Board. There is now under construction by municipalities throughout the State sewage cleanup projects amounting to approximately 22 million dollars, according to a recent estimate. This figure includes the cost of sewers and interceptors in the cases where they had not been previously constructed in addition to the cost of the building of sewage treatment works. It also includes the amount now under contract by Philadelphia which is engaged in a 60 million dollar cleanup program to be completed in 1953, the largest of its kind in this country scheduled to be completed within a specified period. The $11 million Northeast sewage treatment works in that city will be placed in operation in the next few weeks. Construction of the Southeast sewage treatment works is well advanced and work has been started on the Southwest sewage treatment works in addition to the building of hugh interceptors. Those three plants will bring a complete cleanup of sewage pollution from that city and adjoining areas which have arranged to connect their sewer systems with that of Philadelphia.

Another large project is that being built in Bethlehem where more than four million dollars is being spent for the construction of sewers; interceptors and a sewage treatment plant which will contribute greatly to the cleanup of the Delaware watershed.

Norristown is spending $1,350,000 for additions to its existing sewage treatment works in compliance with orders from the Board to provide greater capacity and a higher degree of treatment. New Cumberland, Cumberland Co., had just awarded contracts totalling $1,127,180 for the construction of sewers, interceptors and a sewage treatment plant. Lemoyne, adjoining that community, is completing a sewerage installation at a cost of $830,000 and the treatment works is about to be placed in operation. Mechanicsburg, also in that county, has just completed a sewage treatment works and the installation of sewers and interceptors, at a cost of $1,850,000.

Altoona is building the first stage of its cleanup program under contracts amounting to $1,400,000. Two sewage treatment plants will be built in that city to replace the present inadequate treatment works. Reading is spending $125,000 in its sewage plant rehabilitation program which will cost about $500,000.

When the ice goes out in the Spring. Cabin Branch creek, tributary of the Susquehanna.

Schuylkill Haven was the first municipality along the Schuylkill River to begin construction of a treatment works after the Board had issued orders to all municipalities along the waterway to provide treatment where there are no treatment facilities. The contract is for $760,000. Those municipalities from Reading to Philadelphia, all of which have treatment works, must provide a higher degree of treatment to meet the requirements necessary to clean up the river. Those orders were issued after all the anthracite collieries along the waterway and its tributaries had installed desilting systems preventing more than two million tons of silt and fine sizes of coal from being discharged to the waterways annually.

A new sewage treatment works is being built at Somerset State Hospital at a cost of $203,000 and the plant at Torrance State Hospital is being enlarged at a cost of $173,000.

Five sewage treatment works and two pumping stations are being built at the stations along the Eastern extension of the Turnpike at an approximate cost of $870,000. Upper Darby Township, Delaware, Co., is spending $117,000 for the construction of an intercepting sewer to replace an inadequate sewer which will prevent pollution of Naylors Run. Additions have been built to the treatment plant by Byberry State Hospital costing $177,000.

Mifflinburg, Union Co., is building sewers and a treatment works at a cost of $203,186. Ellwood City, Lawrence Co., and Grove City, Mercer Co., are building additions to their plants. The former is costing $240,000 and the latter, $60,000. Treatment works are being built at the Greater Pittsburgh Airport, by the Safe Harbor Water Power Corp., Conestoga Township, Lancaster Co.

It is estimated that sewage treatment projects installed since the Clean Stream drive got underway represent an expenditure of at least 40 million including the approximated 27 million dollars spent by Philadelphia.

Progress comparable to that being made in abatement of pollution caused by sewage is being made on the industrial front. Waste treatment systems have been and are continuing to be installed in every type of industrial plants, bringing vast improvement to many streams.

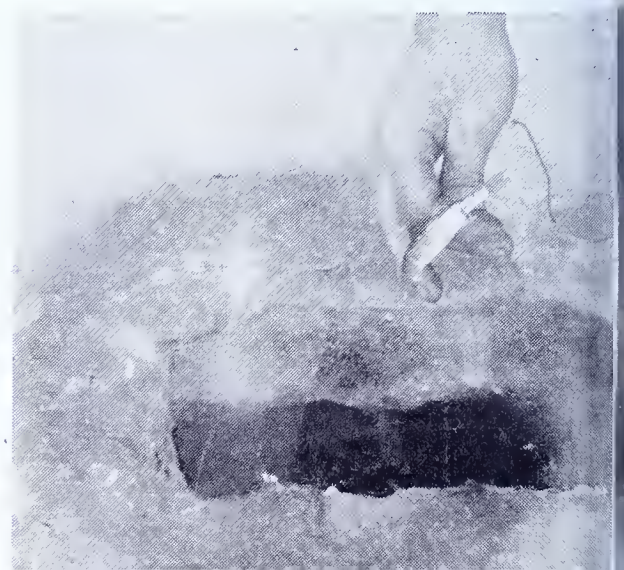
Angler Photo Story

SETTING TIP-UP takes skill . . . water depth must be accurately measured so bait gets down to fish.

← CHOPPIN' HOLES is job that separates the men from the boys, but if you hanker for ice fishing it's your baby!

↓ FLAG'S UP . . . and there's that fancy hook slide to the pin . . . or is it the sack?

↓ FAVORITE BAIT is lively minnow lowered into the newly chopped hole. Pickerel and perch like 'em.



↑ NICE PICKEREL gets the old heave-ho as gang looks on, gets sprayed. Handline technique goes back to boyhood fishin'!

→ BAITIN' UP for another try, you don't have to worry about an ice box to keep your fish fresh!

FLAG UP! That's the story and thrill of ice fishing. But, that's not all. It takes a hardy soul . . . one with blood . . . to withstand wintry blasts, frostbite and work. Usually an ice fisherman is a guy who kicks like a steer if the good wife suggests chopping ice for homemade ice cream. Yet, he's the same gent who'll sweat it out in zero weather hacking a hole through a foot or more of solid ice to get in some fishing fun.

Gang shown in pictures today are on typical ice fishing outing at Hunter Lake, near Eaglesmere. After holes are cut, tip-ups in place, the boys retire to the shore for hot coffee, etc. When a flag goes up, the best base runner the Yankees ever had, couldn't get in a better slide for the flag.

↓ TALL STORIES have their origins in "bull sessions" just like this, around a campfire . . . best part of the outing.

Photos and story by
Don Shiner

CLUB NEWS

Philipsburg Rod and Gun Club

Russell M. Lucas, Secretary, reports the following officers elected at the last meeting to serve in 1951: President, George Griest, Jr.; V. Pres., Eldon Woodside; Secretary, Russell M. Lucas; Treasurer, Edward Loding, Directors, J. Leroy Umholtz, William Fenton, J. C. Kyler, Don Townsend and Richard Shannon. The club has set Feb. 1 as the date for the annual banquet.

York Chapter No. 67—IWLA

Harold Coffman, well known conservationist and sportsman, has been elected to serve as President of the local chapter for 1951. Other officers elected were: Vice Pres., Carroll Hildebrand; Secretary, Kenneth A. Shultz; Recording Secretary, Robert R. Reinicker; Treasurer, Robert Mader. Directors are as follows: Edward G. Fraley, Chairman; Ralph Reinholt, Harry C. Alleman, Faris Barnhart, Charles Bowers, Joseph Strobeck, William R. Kauffman, Alvin Kuntz, Ezra Myers, G. Frank McConnell and James Stambach. The club plans to hold another Sportsmen's Show in York this year and Doc Daugherty has been chosen chairman of the show committee.

Lackawanna Co. Federation Sportsmen's Clubs

Officers elected by the Federation for 1951 are as follows: President, Frank Galonis, Scranton; 1st Vice Pres., John L. Neiger, Clarks Summit; 2nd Vice Pres., Watkin Phillips, Blakely; 3rd Vice Pres., Anthony Faliskie, Archbald; 4th Vice Pres., Edward Kearney, Scranton; Secretary, Watkin Phillips; Treasurer, Harold Luther; Delegate, Frank Galonis, and Alternate, Watkin Phillips.

Petersville Rod & Gun Club

Roland C. Fehnel, Financial Secretary of the club at Bath, Pa., reports the officers elected for 1951 were: President, Charles Longenbach; Vice Pres., Edgar Kehler; Recording Secretary, Russell Becker; Financial Secretary, Roland Fehnel; Treasurer, David Snyder; Directors—I. J. Weber, Leon Becker, Charles Farber, Jesse Costenbader, William Anthony and Charles Praetorius.

DuPont Camp United Sportsmen of Pa.

Members of the DuPont Camp, United Sportsmen of Pennsylvania, DuPont, Luzerne county, are making plans, with the consent of the Game Commission, to improve that section of Meadow Run, tributary to Bear Creek, which flows through Game Lands No. 91, Luzerne county.

NEW COMMISSION MEMBER

Philip E. Angle, Sharon, Pa., who was appointed December 14, 1950, a member of the Pennsylvania Fish Commission by former Governor Duff. Mr. Angle has been active for forty years in outdoors and conservation fields, a graduate of the University of Pittsburgh as a Mechanical Engineer, wrote short articles for the old OUTING magazine and a few others in the early '20's. He is a member of various sportsmen's groups in Northwest Pennsylvania.

Stream Notes

Fish Warden, Russell J. Womelsdorf, Luzerne county reports an unusual number of smallmouth bass produced in the North branch of the Susquehanna. These fish range from 3 to just under the 9-inch legal limit. Fishermen wondering why the increasing amount of small bass might look to exceptionally good spawning conditions the past several years.

Some anglers say the number of pike perch or walleye, is decreasing in the upper Susquehanna. While the walleye is an extremely popular fish with anglers throughout the state, its numbers appear to vary from year to year in certain sections. One year, excellent reports are heard from an area in the river with many large specimens taken. Then for several years the fishing seems poor followed by another upsurge in catches. Old Bleary, as hex is sometimes called, is a most peculiar gentleman.

* * * * *

Sportsmen's groups, more and more, are advocating the improvment of trout streams in their areas. Some say the creation of large, deep pools in streams would help. Others say silt would soon fill in the pools and labor lost. Whatever the answer, it is true some streams must have assistance if they are to maintain a flow necessary to carry over trout from one year to the next. Opening clogged springs near the headwaters of these streams might help.

Rare Eel Found

Warden Robert Greener, Lancaster Cour reports finding a white Brook Lamprey while digging for lamprey eels on the brar of the lower Susquehanna River. Brook a Sea Runner Lampreys are common, but white lamprey is a very rare specimen.

Grouse Takes Wooden Nickel

Warden Wilbur Williams reports that November 7, 1950, he killed two nice grou but when he went to dress them, he fou one had a piece of wood about 2½ incl long and as big around as a five-cent pi in the right side of its breast. This piece wood must have been in the bird a long ti because the wound had healed. It had hurt the bird physically, because it was n and fat. One wonders, why, in flying f speed through the timber, most grouse are loaded with wooden nickels!

Hazards of a Warden

Sometime ago I received information tl nets were set in the Susquehanna River the York County shore near Saginaw.

The river was very low but another ward and I dressed in wool clothing and hip bo decided to visit the location where the n were reported.

A boat was not available, so we cut t saplings and proceeded to wade the ri feeling our way with the use of the poles learn that the information was false, no ne

When we started our return trip the ri had started to rise and became full of whi caps and we lost the ledge of rocks that followed on our way out. We also lost t poles.

Our clothing soaked and our boots full water, the shore looked miles away.

We waded the river toward shore w caution, never getting far from each oth The river bottom was uncertain and t undertow strong. Slowly we tested the wa for depth, foot by foot, for what seemed endless time. Now knee deep and with t next step, neck deep, but always a lit closer to the shore.

In contrast to the beauty of the river wh it is quiet and calm, this day it was wi lonely, and weird.

At last, the shore and the forest, truly haven of rest and safety, where we rest and relaxed and gave thanks to God for I guiding hand helping us both home again.

—Warden John S. Ogden.

Warden Wilcox Mixes 'Em Up

On Sunday, October 8th, I was comi home from stream patrol about midnig and coming across the James Street Brid at North Towanda, I saw three men, o carrying three long cane fish poles and string of catfish. I could not see what th had until I stopped. Each had a full gro cat under one arm and a pup under t other. I made them dig out their fishi licenses, and then the fun started. Ta about mixups that was one, two cats, t pups, and two men. They told me th had carried them about six miles.

Acquisition of Land and Fishing Waters

(*From page 5*)

lues are high and are still rising. nce the landowner retains full title the land and we acquire only the hing rights, the price quoted to the ndowner is based on our estimate of e relative value of this particular ip of land for agricultural purposes d, if possible, is about half the actual le price. Therefore, it follows that od agricultural land will cost more an poor agricultural land.

The State has been divided into ven districts and hatchery employees ere selected to assist in stream purase work along with their other ties. They make contacts with landners on particular streams for posole purchase of fishing rights. Acuisition on any particular stream gins with a complete survey of all ndowners with the areas which they ntrol marked on a map of the stream volved. These investigators then rry on individual contacts with those ntrolling relatively large sections of e stream. Preliminary questions hich the landowner may have conrning the agreement are discussed ith the stream investigator. If a ndowner is sufficiently interested to scuss price, I call on him at his conenience and give him more detailed formation and a price is decided on.

The group of streams which I rerred to as the very best streams have w had the landowner surveys comleted. Some of these streams have s many as 100 landowners on them, d the largest stream is about 35 iles long. It may seem simple to conct a landowner and find out his proximate boundaries, but it is nazing how many landowners do not now exactly where their boundaries e. Many owners do not live on the nd and tenants often do not know e exact address of the owner. More an one trip is often necessary to find e owner at home. Even after an tion or agreement has been signed gal search may reveal a title that is ot clear and the Commission cannot ccept the option.

Contacts for purchase are now proeeding and a section of a canal in astern Pennsylvania is being acquired om the Department of Forests and Vaters. Negotiations are proceeding avorably for a five-mile section on ne of the major limestone streams in e State. Agreement has been eached for the purchase of an aditional one-half mile section of this ame stream. Options have been signed for three miles of another important stream in the northeastern part of Pennsylvania. At least forty contacts have been made to consider purchase and the majority of these showed definite interest if agreement on price and other individual details can be reached.

I would like to emphasize that this is a long-term program and that we are merely laying the groundwork at present. Because the sum of money to be used is not an inexhaustable supply and must be used for other endeavors which will require an indefinite amount of money, we must proceed cautiously.

Most landowners are traditionally fearful of the loss of any rights on their land. Progress on this program will be slow for some time until the landowner can see the effect of this program in other areas. We find that the individual approach rather than mass contacts has the best chance of success at present. If one man can be sold on the program on a particular stream, he becomes a strong factor in selling others. No pressure is exerted to hurry a landowner along in his decision. This in itself means that to reach an agreement with one man may involve two or three weeks.

In very few cases will the exchange of money be sufficiently large to be of paramount importance to the landowner. This is particularly true of streams flowing through good agricultural lands where the farmers are financially well-to-do. Selling these men is very difficult. In the first place, they hate to give up the privilege of closing their land to trespassing if they feel that it is necessary. The questions they have most frequently asked concern camping, fires, hunting, and damage to their fences. Our approach at present is to endeavor to show them that problems involving fishermen which they have had in the past should not increase in the future since the land was open to fishermen before and the agreement should not alter the situation.

From the preceding statement, you may have noted that we are at present concentrating on individuals who have not posted their property. They should be the easiest with whom to reach an agreement. We hope in this manner to acquire the fishing rights on areas now open to the fishing public so that stream mileage will not continue to decline. We do not want to benefit the man who posts by paying him for his land while ignoring the man who has left his place open to fishing for this might cause an immediate increase in posting. Therefore contacts on posted property will be carried out later.

You are probably wondering why

we are so interested in obtaining permanent fishing rights on these streams instead of leasing or renting on a short-term basis such as 10 or 15 years. The major reason is that if the lease is not renewed, any improvements to leased or rented property may pass out of our hands at the end of the lease period. Leasing may be considered if of a sufficiently long term, such as 50 to 100 years; but we prefer to establish a nucleus of permanent public fishing waters within the State which will always remain under the control of the Fish Commission for the use of the public.

In the last analysis, the landowner's attitude has been made by the type of fishermen with whom he has been associated on his own property. If his relationship has been pleasant with these fishermen, his tractor tires have not been punctured by beer bottles in and along the streams, his fences have not been cut or broken down, his cattle have not been stoned, and he himself has not been subjected to irresponsible language, he is generally a very easy man with whom to talk.

With the help of the fishermen in furthering his good will, our program for the acquisition of fishing rights will proceed more easily and you will assure yourself of continued fishing.

". . . so she doesn't allow you to fish, eh? Divorce granted."

— TACKLE TINKERING —

With *Don Shiner*

February, March and the first part of April are restless months of the year for most fishermen. For many, this is a period of inactivity. Other than an occasional outing of ice-fishing, at first glance one would surmise there is little more to do than hibernate, much like a bear, in a warm room near a roaring fire. Yet, such is not always the case. A huge list of jobs stare most sportsmen in the face that can keep them active. The broad term applied to this indoor activity is tackle tinkering and as many will tell, it is not without some pleasure.

The days between now and the first appearance of May flies can be pleasantly spent tinkering with the fishing tackle. Many fishermen have found that while busy at this job, those days just roll by in a jiffy. It not only restores the tackle to good condition, but it is economical. A coat of varnish applied to the bamboo rod may make it last for another year or more. A drop of oil on that reel, or a patch applied to a pair of rubber boots might also do the same.

These are but a few of the many jobs that can keep the sportsman busy until the time is at hand when it is warm enough to venture astream. Tackle tinkering also helps the fisherman to better understand and know his equipment. He can learn how it is made, how much abuse it will stand, and what pieces should be replaced with new ones. By checking each piece of tackle, minor repairs can be made which will render it in good condition. The list of repairs includes every piece of equipment the fisherman owns. His rod, his reel, his lines, boots, creel, lures and leaders have had a hard workout last season and undoubtedly require attention.

For one item, the bamboo rod was put to an exceptionally hard strain, and it probably could stand a minor overhauling during these next few months. Perhaps the wrappings have become frayed. Perhaps the varnish has peeled or has been chipped off in numerous places. Perhaps the line has grooved some of the guides. Before the guides have a chance to ruin the finish on a line, replace them with new ones. Wrapping the rod is not difficult. It entails holding a thread in one hand and the rod joint in the other. The thread is wound around the flattened portion of the guide and the rod joint as the joint is turned. Near the end a loop of thread is wound under the wrapping and the free end of the thread is inserted and pulled under. It is then out of sight and held securely in place.

The months between now and opening of fishing season can be spent tying flies. It's a most satisfying hobby.

When varnishing the rod, it will be found that the varnish will discolor the windings To retain the original color, coat the windings with clear lacquer (clear nail polish) or the regular color preservative. The varnish will not affect the color of the thread then.

At the same time the finish on the rod is being checked, the ferrules can be polished in case they stick when the rod is assembled. A loose reel seat can be repaired by removing it and coating the wood beneath with a water-proof glue. The cork handle can also be cleaned. Fine sand paper will remove the dirt, or a chemical called acetone. This will remove the fish slime and grease and make the cork handle clean and soft again. It does wonders too in making the rod look and feel like a new one. Many fishermen wash the cork handles of their rods regularly with acetone to keep them clean, soft and pliable. One word of caution though when using this chemical, don't spill any of it on the varnish or it will dissolve it, and make the rod sticky.

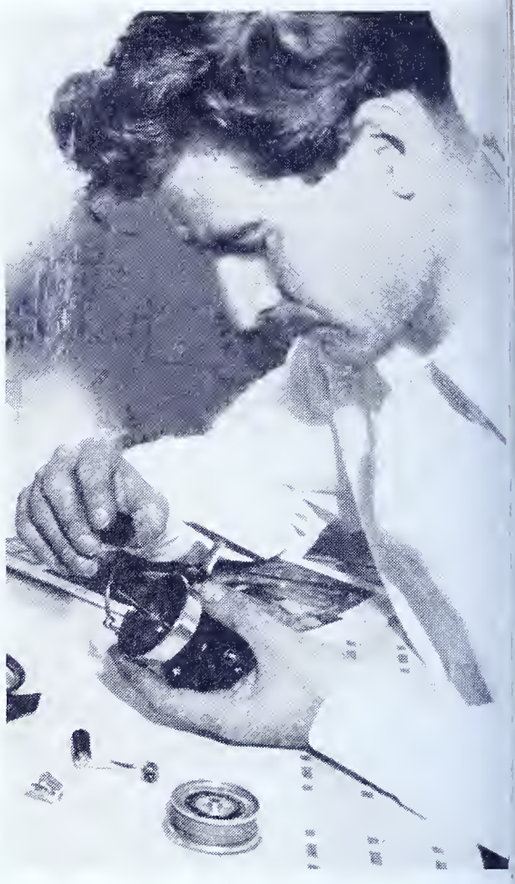
While the paint brush is still handy, one can touch up or repaint many plugs and spoons. Undoubtedly some have become chipped from slamming them against rocks and stumps while fishing. These spots can be touched up with enamel or lacquer, whichever was used originally. Above all, don't paint lacquer over enamel or it will cause it to shrivel.

Those spinners that have tarnished through exposure to air and moisture can be polished and made to look like new. Then, if given a thin coating of clear lacquer the elements won't be able to attack the bright surfaces and they will stay clean and shiny for a long time.

Tackle tinkering doesn't end here. Other pieces of equipment should be checked. Flies in the hat band and in the fly boxes can stand a good steaming over a boiling kettle to fluff up those matted hackles. Then your flies will look like new.

The threads at the eye of the hook should be looked over and those that appear frayed should have a drop of cement or varnish. It should be realized that if this thread wrapping begins to unravel the entire fly will come apart. Then too, the hooks on the flies and other lures should be examined. Keep these needle-sharp. Last season many of the hooks were caught in tree limbs and between rocks. Some became dull just through hooking and landing fish. If the points which are dull are honed sharp again you can more easily hook and land *more* fish!

The reels should have a little attention too. Each reel should be taken apart, cleaned, re-



Reels should be cleaned, inspected for worn parts, then re-oiled.

oiled and assembled. Removing the old oil, dirt and grit cuts down the wear on the metal parts. Those parts which are worn excessively can be replaced. Most sporting goods stores carry these parts in stock, and it is not a difficult task to replace any part of the reel.

The other pieces of tackle can stand some checking. The willow creel should be washed and after thoroughly dry it should be varnished. This care will preserve the willow fibers and give the creel a *sweet* odor again—something most creels can stand! Canvas creels should be washed in soapy water, dried and inspected for tears.

Waders and hip-length rubber boots require an occasional inspection. Many times those small pin holes that invariably let water seep into the boot can be found and patched.

These next few months can be passed with fly tying. This is one of the most satisfying hobbies that fishermen can have. Many dozens of flies can be tied during the course of an evening and by spring the fly boxes will be crammed full. It's always a challenge to try and create fly patterns that imitate the natural aquatic insects better than those already used. There is a definite need for an improvement in many patterns of flies.

Fly-tying amounts to nothing more than about 30 turns of thread around a hook. The thread holds bits of fur, feathers, tinsel and yarn securely in place. No secrets are there to tying a fly and the first one the novice attempts will surprise him with its simplicity. It's fascinating too, to watch a fly progress from a bare hook to that of a finished fly.

Why not spend the next few months tackle tinkering? Fishermen should be busy indoors, checking for repairs needed in his equipment. It isn't necessary to hibernate or be inactive until trout season.

VIEWPOINT—A FABLE

I couldn't figure what the men were doing, I walked closer.

There was about a dozen of them on the pe above the River. They had a kind of tal trough rigged up, slanting down to the ver. All of them had shovels, and they re sure busy with them, stripping sod and t from the slope, shovelling it into the ugh, where it slid down into the River.

Curious, I asked one of them: "Why are u stripping off that soil, shovelling it wn into the River?"

He kept right on shovelling, but spared me look.

"We're getting paid for it."

That was all I could get out of him—maybe he knew. Shaking my head at the ssedness of some people, I walked on home.

Next morning I got up early. I had to get at south field plowed soon, if I was to get y crop in ahead of the rain forecasted.

I hitched up the greys, got out in the field fore the sun was more than a hand high. stopped at the top of the hill a minute, oked at the field. It laid nice, sloping that ay toward the River.

I started the first furrow, straight through e sod toward the River. It plowed nicer at way, and walking downhill every other ne sort of rested the team.

I thought about those men with shovels, tching dirt into the River just because meone was giving them money to do it. irt wasn't meant to be used that way: dirt as meant to raise a crop in.

I went on plowing, uphill to the fence, wnhill to the River.

I thought about the crop I was going to ise.

I figured on the money it would bring.—. O. Nagel, in *The Missouri Conservationist.*

American Fishing Books

(*From page* 9)

ame out after this process as smooth nd pliable as a weed. It gained also nfinite lightness, for when it was rown on the water it fell like a ngle hair on the stream.

"The Major did me the kindness to hew me his flies also: they were all f his own make of course, and were e *ne plus ultra* of verisimilitude. he one he found most taking in the acques Cartier water, and which he ointed out to me, may be thus decribed: the extreme end of the body as tipped with bright yellow, the enter of a reddish brown, about the olor of bear's fur; the shoulder, dark urple; the wings, from the pinion of hen pheasant; and the tail, of two bres from the downy feather of the allard."

During the same year, 1845, John J. Brown, a New York tackle dealer, produced *The American Angler's Guide,* which was written under the pseudonym of "An American Angler." Brown mentions that:

"From the fact of there being comparatively few who practice with the fly, some English writers are of the opinion that there are no fly fishers, and many of our countrymen think there are very few, but this is a great mistake. There are hundreds of good fly anglers, and many that can throw a fly with the most experienced of Europe."

Brown draws heavily on various English works such as Blaine, Fisher, Walton, Cotton, and Hofland's *British Angler's Manual.* Of the original material, the following is quoted as it represents the American practice contemporary with the period.

"Fly fishing is usually practiced with a short one handed rod from ten to twelve feet in length, or a two handed rod from fifteen to eighteen feet in length. The first mentioned is the most common in use, and is calculated for the majority of our streams, which are small and require but little length of rod or line. Attached to the rod would be a reel containing from thirty to fifty yards of hair, grass, silk, or silk and hair line—the latter description should be used if it can be procured—tapering from the tenth of an inch almost to a point; to this should be attached a leader of from one to two yards in length; and finally your fly on a slight length of gut; if you wish to use two or three flies, place them on your leader with short gut about twenty-four inches apart."

Here we find the leader so called for the first time. Up to this date, and for quite some time later, you will observe that it had been known under a variety of names such as *casting lines, foot lengths, bottom line, foot lines* and *collars.*

In an earlier part of the book Brown states that: "The rods used for trout are from twelve to sixteen feet in length; the butt of maple, the second and third joints of ash or lancewood, and the last joint or top, of lancewood for bait; if for fly fishing, spliced lancewood, bamboo and whalebone, similar to the salmon rod, is very often used for the same purpose. The walking cane rod, if well made, is also a very useful article for traveling, or where the angler does not want his business or profession known. Each joint is made to slide into another, and the whole is contained in a hollow butt similar to the walking cane."

As a matter of interest, this telescopic walking cane rod was first mentioned in Dame Juliana Berners' *Treatyse of Fysshnge Wyth an Angle,* 1496, and was also mentioned by Schreiner in his *Sporting Manual.* Brown offers the following in his fourth edition, 1850, as an encouragement to fly-fishing aspirants, who were sadly in the minority in those days.

"The scientific and graceful art of throwing the artificial fly is a beautiful accomplishment but not so difficult as is generally imagined. In the months of May and June, the raft and lumberman from the Delaware and rivers of Pennsylvania are seen in the fishing tackle stores of New York, selecting with the eyes of professors and connoisseurs the red, black and grey hackle flies, which they use with astonishing dexterity on the wooded streams of their mountain homes. Those therefore who have never tried this method of fishing, with such untutored examples before them, should make a little effort towards the successful practice of this branch of the art."

As I have mentioned Brown was a tackle dealer and his shop, "The Angler's Depot" was one of the few such places then existing in the country.

Another favorite place was John Krider's "Sportsmen's Depot," see reduced facsimile of both advertisements.

(*Turn to page* 19)

ELLWOOD CITY GIRL 1950 STATE FISHING QUEEN

Miss Dottie McAnallen, Ellwood City's 1950 winner of the Fishing Rodeo last July, has been designated the Pennsylvania Junior Better Fishing Queen for the year 1950 by the National Award committee in Chicago.

Dottie's one-pound, 8-ounce catfish caught in the Rodeo, was the largest caught in the state and she is entitled to reign as queen over her State angling domain until a successor qualifies in the 1951 Rodeo.

The Ellwood City contest is sponsored by the Ellwood Rod & Gun Club. John Vogler is chairman of the annual rodeo held there.

Our Anglerettes — FOR AND ABOUT MILADY ANGLER

By ELLEN A. DIETRICH

Here's a page written from a woman's angle by one of the best known woman outdoors expert in the State. All inquiries relative to the articles should be addressed to the writer in care of the ANGLER.

Junior anglerettes, Christine MacDonald and Isabelle Bryan, both of Upper Darby, admire Isabelle's first fish, a cattie caught in Montgomery county's Mill Creek.

PEG'S GOING TROUT FISHING, TOO

"Oh, Doris, I'm so thrilled!" cried Peg. "You know I've envied you so much 'cause Jack takes you fishing.—And, Doris, Bill is going to take me trout fishing this year. Isn't that wonderful?"

"That's splendid!" replied Doris, a veteran anglerette who didn't feel the least bit happy when others envied her, but who preferred to help others share her keen enjoyment of God's great out-of-doors. "You know," she added, "from a remark that I overheard your hubby make to my hubby right here in your very own home one evening last summer, I've had a suspicion that nothing would please Bill more than that you should find you get a kick out of slipping off to some quiet spot with him and just fishin', too."

"Well, he's going to be pleased, all right. For, I know I'll get all the kick in the world out of going along." fairly sang her happy friend.

Doris' original intention that afternoon, as she passed by Peg's home, was to drop in only to say "Hello" and "Goodbye" and to be off, she explained. Her shopping tour had required far more time than she had anticipated at the outset of the day. Upon hearing the good news, however, she couldn't help tarrying for further details—and to offer her services in any way that her friend might believe she could be helpful.

"Thanks very much," responded Peg to the proferred aid. "I feel sure that between now and that opening day many questions will occur to me. Most of them I'll probably direct toward Bill; but it will be so much fun to know that I can also pick up the phone and talk to you—that is, if I won't bore you with my utter lack of knowledge about one of your favorite sports."

"Why, of course you won't!" was the warm reply.

"Say, do you know I almost feel like an anglerette already! And gracious, Doris, you haven't yet heard *half* the good news. You should see what Bill brought home for my birthday present!" Quickly Peg went into a downstairs closet and returned with a bundle.

"A sturdy and good-looking pair of hip boots," observed her friend, admiringly. "With warm slacks and woollen socks under those, you'll be as snug as a bug in a rug during the first few weeks of the trout season. It's usually quite cool, you know, at that time of year."

"So Bill reminded me. It's April 15, isn't it, that the trout season opens in Pennsylvania?"

Doris assured Peg that April 15 was the big day, whereupon the latter added enthusiastically: "I wish it were tomorrow! I can hardly wait to wear my boots. Bill says I may borrow a pair of his woollen hunting socks for inside them and he'll supply me with a belt to hold 'em up, too. By the way," she added, thoughtfully, "If I enjoy our jaunts to the trout streams as much as I'm sure I shall, my hubby suggested that perhaps I might also like to try my hand at bass fishing when the bass season opens July first. Do I wear boots for bass fishing, too?"

"Indeed, yes. Hip boots are mighty useful for most any kind of fishing where you're apt to roam around in water. Water and fish—all kinds of fish—are almost synonyms, of course. But any time you're positive you won't wade through water or walk through marshlands or mud—and especially when the weather's *very* warm—you'd probably not wear your boots. In fact, many fishermen fish without ever *intentionally* putting their feet in water or mud. But, to most fishermen," added the veteran anglerette, "hip boots are almost as essential as a rod and reel."

"Well, I have a rod, too!" cried the new anglerette. And back into the closet she fairly flew, to emerge a few seconds later with an additional package. "My birthday present also included this."

"My, what a lovely fly rod—one of the best!" exclaimed Doris, as she eagerly took the rod from its case, put ito together and, being careful not to touch the ceiling of the living room with the rod tip, made a few whip-like motions to test its action. "You've got something here."

"As for a reel," explained Peg, "Bill has several. He's going to let me try them all. Some he calls automatic and some he says aren't automatic. The automatics, I believe, reel in the line at the pressure of a lever, don't they?"

"Yes, that's the difference," assured Doris, the veteran. "And your hubby probably has in mind that both kinds have their individual merits. As with every item of fishing tackle, anglers and anglerettes, alike, have their favorites. Believe me, it will be a long while before you decide which are your favorites, all the way down from the matter of rod reels and lines to flies, plugs, bugs, spoon spinners, fly boxes, bait boxes and the like-just to mention a few of the many items i which there are always many good selection In fact, let me warn you that over the yea you'll probably acquire numerous 'favorites depending on the type of fishing to be don and on the various and varying condition under which you'll fish."

"I can readily believe that," agreed th other, "judging by the many interesting looking gadgets I've noticed among Bill's col lection. By the way, my hubby said, toc that there are other items of wearing appare available for anglerettes, as well as for me for fishing. I happen to have slacks, a spor shirt, sweater, jacket and a sports hat tha will be just fine for April fifteenth; but h thought that, as time goes on, I might wis to add some feminine fishing clothing i water-proof materials to my number on item, the boots."

"True, you probably will," interposed he friend. "More and more women are takin to the streams and lakes every year and, a a logical result, I've seen advertised recentl

(*Turn to page* 20)

Ed Wright, pictured with his anglerette wife, Anne, who several times last year helped her hubby and other male and female casting team members bring home laurels to the Charleroi Casting Club.

Memories on Film

(*From page* 3)

eparty hold it. If you are taking pcture of a couple of bass or trout ire taking home for dinner, hold ei on a stringer or place them on otch of short grass. And if you have e kind of camera that can take cires at close range, you may even ta shot of a fish in the water before landed. Another favorite pose is fish that makes a landing net with its size and weight.

however you pose the fish, make that there is something in the that will indicate the size of the hy. It may be your landing net, fishing hat, or the handle end of fishing rod, if the fish is placed he ground, a log, or a rock to be ographed.

somebody holds the fish, here is a idea: Have him put the head of fish on a level with his own shoul-. If the tail extends below the anybody can see at a glace that as a long one.

olding a fish in both hands, horially, also is a good pose, unless fish is too lively to be kept in position without harming it.

taking pictures of fish especially important to get as close to the ect as you possibly can. Measure distance from subject to lense actely. You get only one chance ake a snapshot of a fish; if it s out to be blurred and out of s, you'll be the loser.

this connection, here is a rule eep in mind. If your camera can ocused to allow you to get within feet of a fish, you'll get a picture r enough that the spots on a trout the markings on the body of a bass ike will show plainly in the find picture.

esides pictures of your companions, fishing spots, and the fish there other incidents worth photograph- A few of these might include ures of your friends assembling r tackle, preparing and eating h, taking naps at mid-day, and n.

hus far we have been discussing ned pictures.

ut they do not make the record plete, necessarily.

ften, unplanned and unexpected ures are far more interesting and ting than those planned in advance. the fisherman who carries a era as well as a rod should be pared for fast action—ready to get s of a deer or bear that appears xpectedly, or maybe a snake encountered along the stream, or of a crane standing sedately at the water's edge.

They spice the film record of any trip.

Film is cheap. Use it generously. You'll find that you can never take too many pictures of a fishing trip.

One more suggestion:

Most snapshots are not particularly attractive in an album because they are so small. So if you do your own film processing, put the negatives through a fine grain developer and make enlarged prints. If you take your pictures to a camera shop, ask for fine grain development and enlarged prints. A print four by five inches in size is ideal.

Put them in the album in an orderly and attractive fashion. Put captions on the pictures to remind you of names, places, and dates.

For you will learn that the older the pictures become the more precious they are and the more you will enjoy the memories that they inspire of experiences on lake and streams.

American Fishing Books

(*From page* 17)

In the year 1847 the first American edition of Isaac Walton's *Complete Angler* appeared under the nom de plume of "The American Editor." The book which is sprinkled with references and annotations relating to fishing practices of-the-day, was in reality edited by Rev. George Washington Bethune. Of all the Walton editions, this book has received more praise than perhaps any of the others. Of the rod, Bethune comments:

"As few persons in these days make their own rods, it may be well here to give some directions how to choose or order a rod, to be made. A trout fly rod should not be more than fourteen feet and a half at furthest. The butt solid, for you will need weight there to balance the instrument, and the spare tips will be carried more safely in the handle of your landing net. A rod in three pieces is preferred at the stream, but inconvenient to carry, and, if well made, four will not interfere materially with its excellence; i.e., the butt of ash, the first joint of hickory, the second of lancewood, and the tip of East India bamboo, or, as I like better, the extreme of the tip of whalebone, well spliced on. The proper elasticity is when a quarter of an ounce weight attached to the tip causes it to descend, five feet below the horizontal line of a rod, fourteen feet long. The entire weight of the rod, should not exceed a pound."

Imagine using such a rod today! Bethune continues:

"Let your reel be not too large and a multiplier, without a check or balance to the crank, for the first will annoy you, besides being of no use, and the last makes your reel turn faster than you think. A click may be added. Kelly is said to be the best rod maker in Europe, but Conroy in New York can make one so good that it will be your own fault if it be not successful."

Hair lines were still in vogue and Bethune states:

"Few anglers in this country will make as good lines, or make them as cheaply as they can be had at the tackle shops, but it must be noted that angling in our mountain streams requires an adaptation of their color to that of the water. As a general rule, in a shaded forest stream, the grizzly grey line is best; but in more open country, the pale sorrel, light slate, or amber, may be better at times."

Among the rarest of the early American fishing works are the yearly angler's almanacs published at 12½ cents by John J. Brown, the author of *The American Anglers Guide*. The first of these made its appearance in 1848 and two others followed in 1849 and 1851.

The almanacs are divided into twelve monthly parts, each part being embellished with an interesting vignette of a fishing scene. As informative works they left a lot to be desired but they furnished monthly information on the phases of the moon, the rising and setting of the sun, the time of high tides and correction factors for different localities, best fishing days, fishing information, humorous anecdotes concerning the sport and quotations from various anglers and periodicals.

Since few copies exist today we are of the belief that the editions were very small, yet it seems hard to reconcile this viewpoint with the fact that, next to the Bible, an almanac of some description was to be found in nearly every home of the early inhabitants. Planting, and all other outdoor work, was only started after consulting it for the correct phase of the moon, a superstition that exists even today in some of the rural communities. But be that as it may, there is no denying the scarcity of these little almanacs. The copy at the Sherwin sale brought $40, which should give one an idea as to its rarity. The title page of the 1848 issue is herewith reproduced.

(*Continued next issue*)

When people go to Florida for the winter for a change and rest, the bellboys get the change and the hotels get the rest.

Our Anglerettes

(*From page* 18)

not only waders for anglerettes who want to go into water above the hip boot line, but also durable, water-proof trousers, jackets, fishing vests, caps and hats, designed especially for women by several manufacturers. Say, some time let's you and I drop into a sporting goods store and ask about them."

"All right," was the reply. "And we won't have to buy everything all at once. In fact, I probably couldn't."

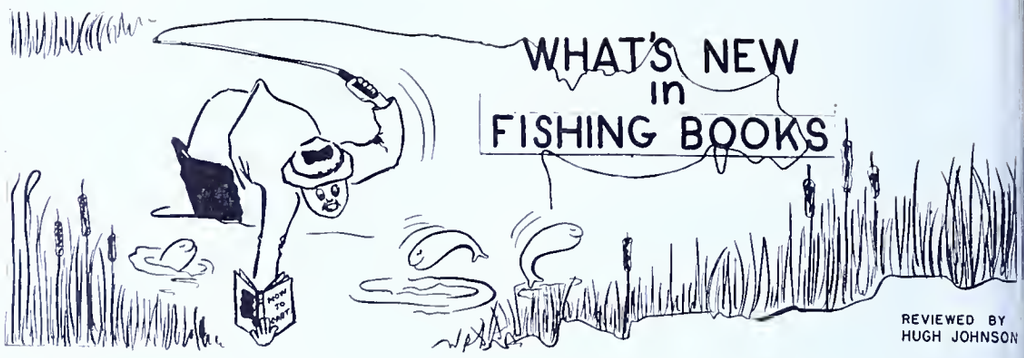
"Nor could I, perhaps, either. But let me say right here there's something about fishing, Peg, that my hubby and I learned as newlyweds with very limited pocketbooks—and, needless to add, we were grateful to learn it—we learned that fishing is one sport in which you can have *real* rod-and-reel fun regardless of how much or how little you can afford to spend for clothes or for equipment. In fact, prices on fishing tackle vary from unbelievably low figures to, well, large sums. And sporting goods stores have always helped Jack and me to find what we've wanted at prices we could afford."

"No doubt you're right, Doris. Why, Bill even reminisces upon the days when, as a youngster, he was delighted to use a pole, a string and a bent pin. And he caught fish!'

"Of course he did," laughed Doris. "But today he's mighty proud of his tackle box full of lures and all the other items of fishing equipment he has accumulated over the years."

"Come to think of it, he didn't even suggest that I might like to try a bent pin on April 15. He said I may use his trout flies—that is, unless the weather's very cold, in which case we might use worms, too, he added. He calls the trout wily. Says they're smart and we have to outsmart them by making them think our flies are real and *alive*. I believe he said *wet* flies are fished under the water where they get wet, and *dry* flies are fished on top of the water where we try to keep them dry. To help, I understand we whip the fly around in the air somehow. But he says I should forget that 'til he shows me how out on the stream. Oh, I do recall he said something about fly and line dressings to help keep the dry fly and line on top of the water. That's all I know, so far—and perhaps I haven't explained even that accurately, have I, Doris?" asked Peg, anxiously.

"You certainly have and, believe me, I can see you're in dead earnest about becoming a *real anglerette!*" complimented Doris. "But, great guns and little fishes! Have you noticed how the hands of that clock have gone around while we've talked? My hubby, as you've observed, is really patient, as all good anglers and anglerettes should be. As anglerettes, however, we must also be careful not to change places with the fish . . . we must not tax our hubbies' patience by making them wait for supper! 'Bye now, fellow trout fisherman!"



REVIEWED BY
HUGH JOHNSON

In Norfolk, Virginia, during the last twelve months of my World War II Navy hitch, my roommate and I, fancying that we could co-author a fishing book, agreed that the most pressing need in the literature of fishing was a book about flies—a book which would pull together into one volume all the important facts about flies and which would also include a complete dictionary of fly patterns. We put most of our spare time into this project and by the time we were separated from the Navy we had written some chapters, drawn up an outline, and had built up an imposing row of 3 x 5 filing cards containing the names and vital statistics of several hundred trout flies. Our work has continued on a somewhat retarded pace, but the fishing world will be spared ever having to read it because George and I have been beaten to the punch—and beautifully—by J. Edson Leonard in his new book *Flies* (just published by A. S. Barnes and Company, 101 Fifth Avenue, New York, N. Y. $5.00).

The complete title of the book is one of those nice old-fashioned ones which fully summarizes what the book is about—*Flies: Their origin, natural history, tying, hooks, patterns and selection of dry and wet flies, nymphs, streamers, salmon flies for fresh and salt water in North America and the British Isles, including a Dictionary of 2200 Patterns.* The need for a complete book about flies no longer exists. This is IT.

The first thing that strikes the reader of this volume is realization of the vast amount of research that must have preceded the writing. Leonard has been collecting, compiling, classifying and editing source material on flies from every English-speaking country of the world for fifteen years. He has kept records and field books on trout stream insects and has observed and compared the performance of artificial flies. He has tied uncounted numbers of flies and has watched other experts work and seen their tricks. Out of all this has come a very important book packing between its handsome red covers a fascinating array of material about flies.

The whole work is impressive but for me the high point of the book is the dictionary of flies in which the names and complete descriptions of 2200 flies are given, including trout wet and dry flies, steelhead wet flies, trout, bass and salmon streamers, salmon wet fly patterns, fancy lake flies, and salt water flies. Bergman's *Trout* contains a descriptive list of flies which, however, merely scratches the surface compared to the in the Leonard book. For example, Leo lists thirty-one different Coachman flies! extensiveness of the dictionary does den strate the absurd lengths to which fly vention and variation have gone, but fly fishermen will have a keen acade interest in possessing such a complete tionary of the terminal tools of their "tra

Mr. Leonard's chapter on Aquatic Ins and Crustaceans is detailed and pains ingly presented and contains all the infor tion on natural insect life that most fish men will ever need to know. There identification charts, emergence charts calendars, charts showing the relative portance of different insects in fish d etc. Of interest to those who do not h a copy of the excellent, out-of-print *T Streams* by Paul Needham is the fact several tables from that book are reprod here and that Needham has helped the au in the writing. My only quarrel with chapter is that typographically it is not signed for easy reading. The headings paragraphs, sub-paragraphs, and sub-s paragraphs are all in capital letters of e size. This same unimaginative typograph styling runs throughout the book but i only offensive in this one chapter that i sectionalized. This, however, is not author's fault and the material itself is g

Fly-tying is presented completely ex for the fact that some of the newer pla processes are passed over quite quick such as Lee Wulff's Form-a-Lure, especi adaptable to nymph work. Some may s at Leonard's nymph patterns, wondering I did, how many casts—not to mention l many trout mountings—those *bent-to-sh* peacock herl legs would survive. But fly-tying chapters are full of good tricks clear directions, including an ample num of illustrations.

Flies is full of good line drawings by author, color plates of flies, and a sectio surprisingly informative black-and-w photographic plates of favorite flies as by the experts. One could write pages about this book to call attention to all fine features of *Flies*—such as the Appe of letters from scores of famous fly-tiers over the world telling of their favorite for the waters they fish, but suffice it to that *Flies* is a tremendous job, unmatc in its field, a first-rate value, a reference that is a "must" for the fly fisherm bookshelf.

THE MARCH ANGLER will present another featured center-spread picture story on trout stocking; Thad Bukowski will spin a yarn about a monster catfish with beautiful whiskers; Albert Shimmel will have another fine trout story along with those unique illustrations; Don Shiner comes up with a story on panfish. The new Departments will present fresh, informative material. All this plus features, stories, pictures, down the angler's alley!

School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

Mr. Ahrens, familiar to ANGLER *readers for his series on water organisms, is a biology teacher in the Pittsburgh schools and editor of the Pittsburgh Teachers Bulletin. His "School Page" will be a regular feature, and all questions regarding subjects on this page should be directed to his attention, in care of the* ANGLER.

FINS, FUR, AND FEATHERS IN FEBRUARY

ife slows down when the mercury falls. nter time is rest time for most plants and mals. Plants are said to become *dormant*. mals react to low temperatures in several ys.

ome, like the squirrels, fall into a long, p sleep; this is called *hibernation*. Some, many birds, take long trips to warmer nates; this is *migration*. A few do not m to mind low temperatures. The perch . the pickerel seem as active in winter as the summer . . . and are frequently ght by the through-the-ice-fisherman. many fish become sluggish and sink to bottom of their pond where they lie ost motionless. If the water should freeze he bottom and the fish become imprisoned the ice, no harm apparently is done. The ggist on our corner received a large ship- nt of goldfish recently. Each pair was zen solidly in a cube of ice. When the ice s melted, the fish swam vigorously about they enjoyed their new freedom.

he winter part of a creature's life cycle is en a curious one. Do you know how each the following Pennsylvanians spend the nter: Angle worm . . . Brown bat . . . llhead . . . Monarch butterfly . . . rden spider.

WINTER HANDOUT

An interesting and worthwhile project to carried on in the winter is maintaining a d feeding station. If your school has trees the yard or if it is near a grove, attracting ds is no problem. Elaborate feeders are necessary. Birds are interested in the food not the tray.

Get an assortment of foods and you'll get an assortment of birds. Last winter we kept chunks of suet in an old red onion sack and flocks of chickadees flew in to visit it regularly. They are agreeable tiny bundles of feathers with neat black caps and tidy black bibs. Suet also attracted the downie and hairy woodpeckers. They seemed not a bit gregarious. Each would swoop in by himself, moody and solitary. The pupils soon distinguished the little downie from the larger hairy. They also learned the difference between the males and females. The males have a red topknot; the females lack this decoration.

One wonders how their digestive mechanism can digest that icy suet. Scientists believe it possible because birds are the most warm-blooded of animals. Their temperature has been checked at 114 degrees Fahrenheit. What happens to man if his temperature goes much above 106 degrees Fahrenheit?

Our bird feeder always had a variety of grains and table scraps, and we always had many visitors. We entertained cardinals in pairs, tufted titmice in small flocks, an occasional nuthatch who sang for us through his nose . . . or so it sounded. In February a pair of Carolina Wrens became daily guests and stayed not only through the rest of the winter but the following summer as well. They built a series of nests in a stack of baskets. A robin and a song sparrow stayed with us through the winter. It's a good idea to begin the feeding early in the fall. The food will attract and hold birds that usually migrate.

When you take food to the feeder, allow some of it to fall on the ground. The juncos like to eat with their feet on the earth. True, you can train them to eat in the air, but they're more content down below.

MATCH QUIZ

Science	Study of
1. ——Astronomy	A. Animals
2. ——Botany	B. Birds
3. ——Conchology	C. Earth, Structure of
4. ——Entomology	D. Fishes
5. ——Geology	E. Fossils
6. ——Ichthyology	F. Heavenly bodies
7. ——Mammology	G. Insects
8. ——Ornithology	H. Mammals
9. ——Paleontology	I. Plants
10. ——Zoology	J. Shells

HURRYING SPRING

Now is the time to cut branches from dormant perennials to be forced into early bloom in your living room or school room. Try cuttings of wild crab, pussy willow, or forsythia.

CHUCK, THE WARDEN, SAYS:

We've a habit in this nation,
When discussing conservation,
To stress animals and oil,
Minerals (like ore) and soil,
Waters rushing sparkling by,
Forests reaching toward the sky;

And so often don't recall
The most important one of all,
Miss the chief of God's creation:
Man, and human conservation.

Feathery Crystals

During the next snow fall, study individual flakes. Let them fall on a dark cloth and examine them with a handlens. You'll find no two alike . . . at least so far no one has. And you'll find that every flake is a model of perfection. If you examine the finest cut diamond under a magnifying glass you'll find slight flaws; you'll find no flaws in a snow flake.

SUGGESTION

By Jon, Karin, and Leif Ahrens

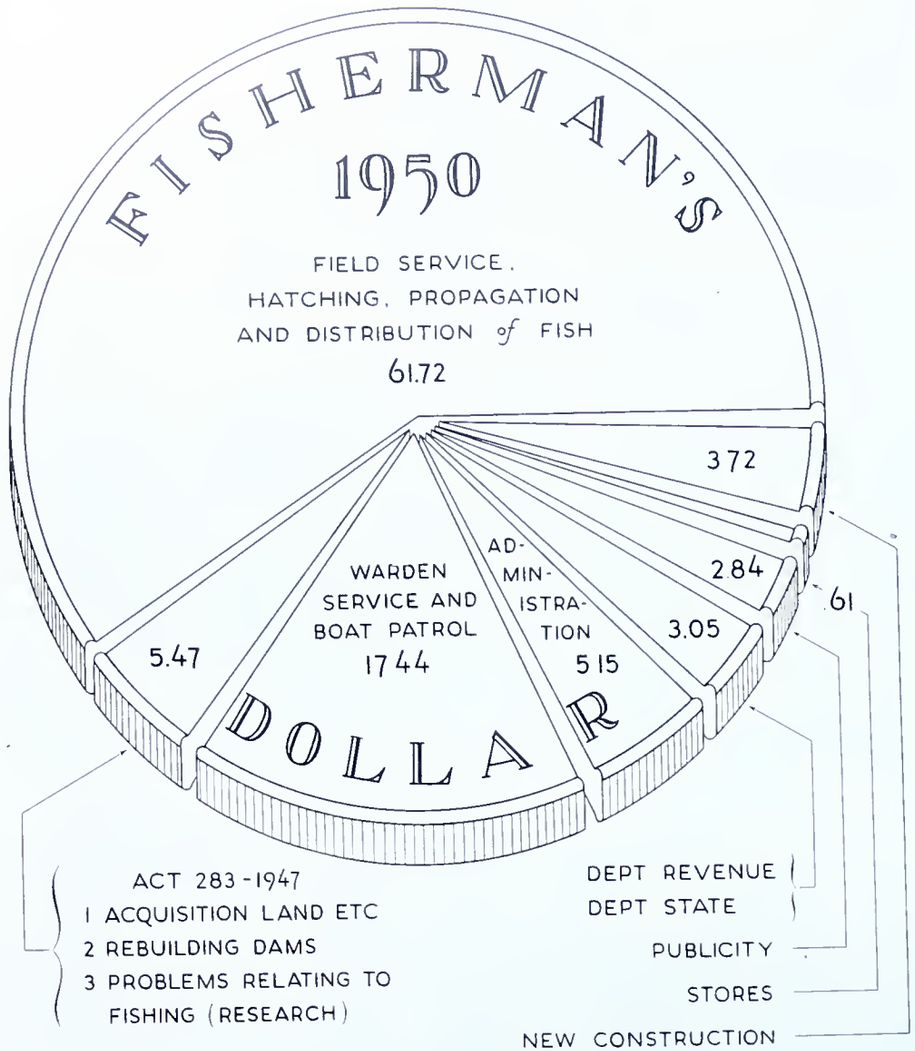
Fifteen cents was the measly sum
That we could spend for bubble gum.
But we three kids just didn't do it;
We bought, instead, a chunk of suet.
We slipped it in an onion sack
And nailed it to the elm out back;
Then came inside, stamped off the snow,
(We just laugh when mad winds blow.)

And soon our elm had friends galore:
Black-capped chick-a-dees, half a score:
A red-capped downy, his plain-capped mate,
Hung round the elm, early and late.
Tufted titmice came to call . . .
One hardly had a tail at all!
Our tree had lots of ornaments,
All for that measly fifteen cents.

(Reprinted with permission of NATURE MAGAZINE)

ANSWERS TO SCIENCE QUIZ

1-F 2-I 3-J 4-G 5-C 6-D 7-H 8-B 9-E 10-A



COMMONWEALTH OF PENNSYLVANIA

PENNSYLVANIA FISH COMMISSION

Harrisburg

Fish Stocked in the Waters of Pennsylvania—1950

Species	*Approx. Size*	*Number*	*Total*
Brook, Brown and Rainbow Trout	7″ to 20″	2,205,943	
Black Bass	1″ to 12″	682,884	
Catfish	5″ to 12″	315,110	
Sunfish	3″ to 8″	687,143	
Frogs (Embryo)		87,000	
Carp	10″ to 20″	108,906	
Yellow Perch	Adult	239,040	
Minnows	1½″ to 6″	123,800	
Pickerel	7″ to 18″	1,533	
Calico Bass	7″ to 11″	10,125	
Pike Perch	Adult	356	
Suckers	2″ to 5″	311,527	
Goldfish		70	4,773,437
Fry and Fingerling			
Trout	Fingerling	2,876,450	
Yellow Perch	Fry	350,734,000	
Pike Perch	Fry	525,000	
Cisco	Fry	1,500,000	
White Fish	Fry	9,000,000	
Blue Pike	Fry	37,000,000	401,635,450
Grand Total			406,408,887

FINANCIAL STATEMENT PENNSYLVANIA FISH COMMISSION

CALENDAR YEAR 1950

BALANCE—January 1, 1950		
Cash		$999,520.16
U. S. Treasury Certificates		109,000.00
		$1,108,520.16
RECEIPTS—1950		
Resident Fishing Licenses	$1,237,241.50	
Non Resident Fishing Licenses	57,070.55	
Tourist's Fishing Licenses	15,267.20	
Eel Chute Licenses	14.00	
Lake Erie Licenses	3,789.00	
Commercial Hatchery Licenses	1,910.00	
Motor Boat Licenses	48,763.25	
Fish Law Fines	31,938.00	
Motor Boat Fines	2,520.00	
Contributions for Restocking Streams	15,475.00	
Sale of Publications	7,418.95	
Sale of Unserviceable Property	1,100.07	
Interest	10,297.13	
Miscellaneous	22.85	1,432,827.50
Total Funds Available		$2,541,347.66

EXPENDITURES—1950		
ADMINISTRATION		
Salaries	$33,661.42	
Wages	4,275.64	
Printing, Binding & Stationery	16,878.15	
Materials & Supplies	861.15	
Traveling Expenses	1,512.45	
Motor Vehicle Supplies & Repairs	791.68	
Freight, Express & Cartage	93.98	
Postage	2,111.00	
Telephone & Telegraph	1,702.74	
Newspaper Advertising & Notices	56.73	
Contracted Repairs	353.65	
Rent of Real Estate	29.68	
Insurance, Surety & Fidelity Bonds	310.11	
Other Maintenance Services & Expenses	147.14	
Motor Vehicles	1,843.60	
Equipment & Machinery	520.55	
Total	$65,149.67	
WARDEN SERVICE		
Salaries	$119,280.50	
Wages	18,449.06	
Fees	381.00	
Printing, Binding & Stationery	314.41	
Materials & Supplies	1,733.92	
Traveling Expenses	71,446.68	
Telephone & Telegraph	3,624.74	
Contracted Repairs	35.50	
Insurance, Surety & Fidelity Bonds	718.54	
Other Maintenance Services & Expenses	141.75	
Equipment & Machinery	3,476.12	
Total	$219,602.22	
BOAT PATROL SERVICE		
Materials & Supplies	$286.24	
Rent of Real Estate	117.00	
Insurance, Surety & Fidelity Bonds	303.14	
Total	$706.38	
FIELD SERVICE		
Salaries	$13,248.00	
Wages	18,091.58	
Printing, Binding & Stationery	237.01	
Materials & Supplies	2,600.61	
Traveling Expenses	2,297.08	
Motor Vehicle Supplies & Repairs	368.14	
Telephone & Telegraph	1,989.91	
Light, Heat, Power & Fuel	179.00	
Contracted Repairs	80.50	
Rent of Equipment	46.45	
Insurance, Surety & Fidelity Bonds	204.02	
Equipment & Machinery	1,191.11	
Total	$40,533.41	
HATCHING SERVICE		
Salaries	$186,158.00	
Wages	171,467.98	
Fees	430.00	
Printing, Binding & Stationery	893.82	
Food & Forage	215,497.45	
Materials & Supplies	45,485.76	
Traveling Expenses	9,077.07	
Motor Vehicle Supplies & Repairs	22,361.87	
Freight, Express & Cartage	194.80	
Postage	1,040.49	
Telephone & Telegraph	2,846.21	
Light, Heat, Power, Water & Fuel	28,043.84	
Contracted Repairs	1,879.81	
Rent of Real Estate	1,310.00	
Rent of Equipment	476.20	
Insurance, Surety & Fidelity Bonds	2,528.20	
Motor Vehicles	35,974.51	
Equipment & Machinery	15,134.47	
Total	$740,800.48	
EDUCATION & PUBLICITY		
Salaries	$6,114.30	
Wages	3,371.17	
Fees	3,092.80	
Printing, Binding & Stationery	19,760.34	
Materials & Supplies	603.59	
Traveling Expenses	1,300.60	
Postage	350.00	
Contracted Repairs	13.00	
Rent of Real Estate	195.00	
Insurance, Surety & Fidelity Bonds	25.72	
Other Maintenance Services & Expenses	6.50	
Equipment & Machinery	1,095.42	
Total	$35,928.44	
CONSTRUCTION (PYMATUNING)		
Wages	$32,395.77	
Materials & Supplies	13,320.72	
Motor Vehicle Supplies & Repairs	1,300.84	
Contracted Repairs	38.69	
Total	$47,056.02	
Refund & Repayments of Receipts	415.00	
STORES		
Materials & Supplies, etc.	7,744.16	
PENNSYLVANIA DEPARTMENT OF REVENUE (Bureau of Miscellaneous Licenses)	23,032.60	
DEPARTMENT OF STATE (State Employes Retirement Board)	15,528.50	

Expenditures made by the Pennsylvania Fish Commission in accordance with Act 283—1947:

PROBLEMS RELATING TO BETTER FISHING: RESEARCH		
Salaries	$7,930.50	
Wages	18,312.82	
Printing, Binding & Stationery	535.85	
Materials & Supplies	4,619.55	
Traveling Expenses	5,693.41	
Motor Vehicle Supplies & Repairs	340.36	
Light, Heat, Power & Fuel	494.02	
Contracted Repairs	97.69	
Insurance, Surety & Fidelity Bonds	116.55	
Equipment & Machinery	2,835.98	
Subsidies, etc.	500.00	
Total	$41,476.73	
ACQUISITION OF LAND & FISHING WATERS		
Wages	$9,374.39	
Fees	257.70	
Printing, Binding & Stationery	36.89	
Materials & Supplies	55.19	
Traveling Expenses	2,605.66	
Rent of Equipment	800.00	
Equipment & Machinery	171.58	
Land	13,445.34	
Total	$26,746.75	
REBUILDING TORN OUT DAMS		
Fees	907.89	1,265,628.25
BALANCE—December 31, 1950		$1,275,719.41*

*$1,166,719.41 Cash
109,000.00 U. S. Treasury Certificates

$1,275,719.41

Act No. 283—1947, provides that effective the first day of January 1948, twenty-five cents (25c) from each resident fishing license fee shall be used exclusively for (I) The acquisition of land and fishing waters (II) The rebuilding of torn out dams, and (III) The study of problems related to better fishing. Expenditures during the calendar year are shown in detail above.

STATEMENT OF EARMARKED FUND

Accrued		
1948	$147,862.50	
1949	154,810.80	
1950	154,654.39	$457,327.69
Expended		
1948	21,358.83	
1949	34,435.89	
1950	69,131.37	124,926.09
Balance December 31, 1950		$332,401.60

Trout Troubles

(*From page* 10)

she tossed it into the water before returning to her casting.

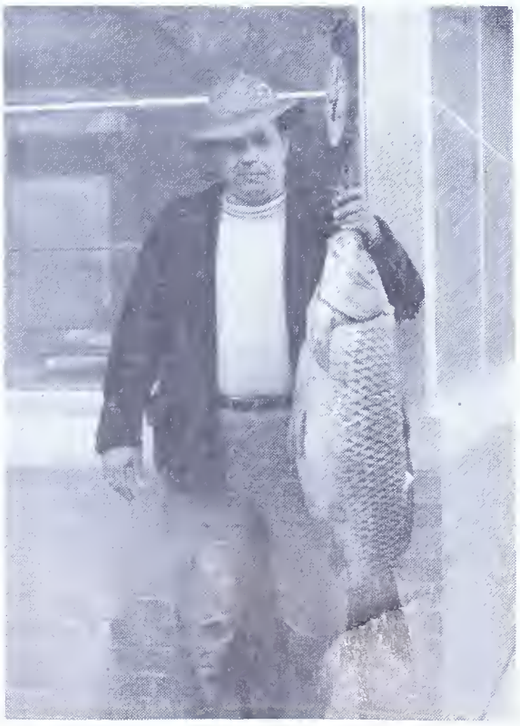
The cigarette tipped with bright red lipstick floated down toward us and by chance drifted down directly over our finicky trout. Before our very eyes he rose, took it from the surface, carried it back to the bottom, chewed a moment reflectively then spit it out. The scarlet tipped paper whirled over in the current, turning, he took it with a rush. Chet looked at me with a grin and a shrug of the shoulders. We had plenty of cigarettes but no lip--stick!

A certain well known sportsman and fly-tyer wrote a feature article in the newspaper praising the old English sea-trout pattern known as the Teal and Red. Immediately all my angler friends began asking for sample patterns with the result that I tied several dozen in sizes twelve to sixteen. One evening as I was tying Midges on eighteen and twenty short shanked hooks I happened to think of the Teal and Red.

Many times at the beginning of a midge hatch trout will not look at a floating imitation but will break water industriously. A study of the natural reveals that the larva and pupae are blood red with silvery colored respiratory organs at the top. The Teal and Red tied with small wings set at an extreme forward angle with a turn or two of peacock for a thorax and a silky body of Royal Coachman red made a fair imitation. I made eight, put them in with the midge patterns and forgot them until July. Early one morning as we assembled our tackle on Wycoff I remembered the tiny Teal and Red's. Attaching one to my leader I doped only the wings and wet the body so that it would float with only the wings exposed. In four casts I hooked and landed four brown trout while my companion stood bug-eyed with amazement. Dividing the midges equally with him we fished separate stretches of that picturesque mountain water. In a little over an hour I had some of the grandest sport of my experience. Finally the last Teal and Red was gone and try as I might my other midges failed to produce. Returning to the car I met my friend looking so lugubrious it was funny. His experience had duplicated mine. When a combination of fast water and jumping trout had robbed him of his last fly he had come in search of me, hoping I had been able to salvage a specimen or two.

Needless to say I lost no time in making a good supply but for the balance of the season I never took another trout on them although you can be sure I tried them frequently.

Little wonder individuals angling for trout frequently become to exasperated they resolve to sell all their equipment, never go near trout water again. These resolutions are sometimes so strong they last as much as twenty-four hours. The third day usually finds them back at the scene of their defeat resolved to show those contrary trout just who is boss.



Hydro Fishing Club contest winner, Franklin Kissinger, Columbia, Pa. with carp 33½ pounds, 36 inches long. Fish was caught at Safe Harbor dam last season.

The Big Ditch

(*From page* 7)

He had hardly gotten set when I saw him assume an attitude akin to the one of the dog listening to his master's voice. However, my full attention immediately reverted to Bill when his fish "swhoosed" again.

A blood curdling yell caused both Bill and I to turn to our companion.

That worthy was on his feet and reaching out with his rod as far as his outstretched arms would permit. "I've hooked the biggest fish in the lake," he excitedly cried as he tried to reach out still farther.

"Give him line," I yelled.

"I can't," he came back, "he's g it all."

He had overplayed his hand. Wan ing to make certain that he hooked tl fish and thereby surprise us, he ha permitted it to take out all of his lin

"Go into the water," roared Bill the excitement mounted.

In the meanwhile, Bill's fish r luctantly yielded to the combine pressures of arched rod and strainii reel. In seconds his wide side gleame in the afterglow and I swung in action.

"For heaven's sake get a net und that baby," pleaded Bill as I made f it with a long handled net.

We took only enough time to pla Bill's fish high aground before tur ing to the frantic medico. He was the very edge of the abrupt bank ar still endeavoring to make up his la of line with his arms.

"Do you still have him on?" aske Bill after a paroxysm of laughter.

"He's pulling like a steer," crie the fisherman and then dismal added, "He'll break the line."

"He will unless you wade out in the water," warned Bill, the eage ness in his voice completely lost the excited Doc. I might add that that spot the bank dropped sudden to a depth of six or more feet.

When I reminded Doc that his lin was strong enough to hold the large fish in North America, Bill well nig choked to death.

"It tests only forty-pounds," waile Doc as that fish did its level best yank his arms out of their sockets.

"Aw, haul him in—run up the ban He'll never break that hawser," yelle Bill.

In desperation Doc did exactly th and banked a huge carp, in fact, fifteen pounder.

"Ugh," snorted Bill in mock disgu as he returned to his catch.

Presently Bill returned to whe Doc and I were attempting to remov the hook from Doc's gargantua catch.

"That's *some* fish," sniffed Bill.

"The biggest I ever caught," sa Doc as we slid the big fellow bac into its element.

"Now, then, where's that minnie yours?" asked Doc after we complete our task of liberation.

"Right here," proudly replied Bi as he held his catch in the bright bea of a flashlight. It was a chunky thre pound largemouth.

We had no further excitement. Bu when we left there shortly before mi night we had twenty fine bullhead all of a size and just right for rig proper eating. The big ditch ha paid off.

It's a fine idea to stop buying things yo can't afford, but who wants to quit eating.

SPECIAL AMENDMENT OF THE FISH LAWS PASSED BY 1949 LEGISLATURE AND RESOLUTION OF THE COMMISSION—ALL FISHING IS PROHIBITED IN ANY WATERS FROM MIDNIGHT MARCH 14 TO 5 A. M. APRIL 15, 1951, EXCEPT IN RIVERS, LAKES, OR PONDS NOT STOCKED WITH TROUT

THE FOLLOWING IS A LIST OF WATERS CLASSIFIED AS RIVERS IN PENNSYLVANIA

Name	*Tributary To*	*Basin or Sub-Basin*
*Allegheny River	Ohio River	Ohio
Ashtabula River	Lake Erie	Erie
Beaver River	Ohio River	Main Ohio
Beaver (Little) River	Ohio River	Main Ohio
*Beaver (Little) River, North Fork	Little Beaver River	Main Ohio
Black River	Saucon Creek	Middle Delaware
Casselman River	Youghiogheny River	Monongahela
Cheat River	Monongahela River	Monongahela
Chemung River	NB Susquehanna River	UNB Susquehanna River
Clarion River	Allegheny River	Middle Allegheny
*Clarion River, East Branch	Clarion River	Middle Allegheny
Clarion River, EB Middle Fork	East Branch Clarion	Middle Allegheny
*Clarion River, West Branch	Clarion River	Middle Allegheny
Conemaugh River	Kiskiminitas River	Lower Allegheny
Conemaugh (Little) River	Conemaugh River	Lower Allegheny
*Conemaugh (Little) River, NB	Little Conemaugh River	Lower Allegheny
*Conemaugh River, S. Fork	Little Conemaugh River	Lower Allegheny
Cowanesque River	Tioga River	UNB Susquehanna
Cowanesque River, North Fork	Cowanesque River	UNB Susquehanna
Delaware River	Delaware Bay	Delaware
Delaware River, West Branch	Delaware River	Upper Delaware
Elk River	Chesapeake Bay	Lower Main Susquehanna
*Genesee River	Lake Ontario	Genesee
*Genesee River, Middle Branch	Genesee River	Genesee
*Genesee River, West Branch	Genesee River	Genesee
Juniata River	Susquehanna River	Susquehanna
*Juniata River, Frankstown Branch	Juniata River	Upper Juniata
*Juniata River, Raystown Branch	Juniata River	Upper Juniata
Juniata (Little) River	Frankstown Branch	Upper Juniata
Kiskiminitas River	Allegheny River	Lower Allegheny
Lackawanna River	NB Susquehanna River	LNB Susquehanna
*Lackawanna River, East Branch	Lackawanna River	LNB Susquehanna
*Lackawanna River, West Branch	Lackawanna River	LNB Susquehanna
*Lackawaxen River	Delaware River	Upper Delaware
*Lackawaxen River	Lackawaxen River	Upper Delaware
*Lehigh River	Delaware River	Middle Delaware
Mahoning River	Beaver River	Main Ohio
Monocacy River	Potomac Creek	Potomac
Monongahela River	Ohio River	Monongahela
Ohio River	Mississippi River	Ohio
Potomac River	Chesapeake Bay	Potomac
Schuylkill River	Delaware River	Lower Delaware
Schuylkill River, West Branch	Schuylkill River	Lower Delaware
Schuylkill River, West-West Branch	W. Branch Schuylkill River	Lower Delaware
Schuylkill (Little) River	Schuylkill River	Lower Delaware
Schuylkill (Little) River, East Branch (or Still Creek)	Little Schuylkill River	Lower Delaware
Schuylkill (Little) River, W. Branch	Little Schuylkill River	Lower Delaware
Shenango River	Beaver River	Main Ohio
Shenango (Little) River	Shenango River	Main Ohio
Susquehanna River	Chesapeake Bay	Susquehanna
Susquehanna River, North Branch	Susquehanna River	Susquehanna
Susquehanna River, West Branch	Susquehanna River	Susquehanna
*Tioga River	Chemung River	UNB Susquehanna
Youghiogheny River	Monongahela River	Monongahela

* See following list for rivers and sections in which fishing is prohibited.

IE FOLLOWING IS A LIST OF RIVERS, OR SECTIONS OF RIVERS, LAKES, AND PONDS WHICH ARE STOCKED WITH TAKABLE TROUT BY THE COMMISSION, AND IN WHICH FISHING IS PROHIBITED FROM MIDNIGHT MARCH 14 UNTIL 5 A. M. APRIL 15, 1951.

RIVERS

egheny River, Potter County—Stocked from the vicinity of Coudersport upstream to the vicinity of Seven Bridges, about 8 miles.

rth Fork of Little Beaver River, Beaver County—Stocked from the vicinity of Darlington upstream to the Beaver-Lawrence County line, a distance of approximately 5 miles.

st Branch of Clarion River, Elk County—Stocked from the vicinity of Instanter to Glen Hazel, 7 miles.

est Branch of Clarion River, Elk County—Stocked from a point known as Rolfe, just north of Johnsonburg, upstream to vicinity of Wilcox, 5 miles.

rth Branch of Little Conemaugh River, Cambria County—Stocked from above the Wilmore Dam upstream 4 miles.

uth Branch of Conemaugh River, Cambria County—Stocked from where the road crosses the stream above Lloydell upstream to Summit Hill Water Company Dam, 3 miles.

nesee River, Potter County—Stocked from the New York State line to West Bingham, 5 miles.

iddle Branch of Genesee River, Potter County—Stocked from the vicinity of Harmonstown upstream to George Williams farm, 6 miles.

est Branch of Genesee River, Potter County—Stocked from the vicinity of Ellisburg to Genesee, 5 miles.

ankstown Branch of Juniata River, Blair County—Stocked from the mouth of Pine Run downstream to McDonald Run, 9 miles.

aystown Branch of Juniata River, Bedford County—Stocked from the vicinity of Bedford upstream to Somerset County line near New Baltimore, 18 miles.

st Branch of Lackawanna River, Susquehanna County—Stocked from the vicinity of Herrick Centre upstream to near the source, 5 miles.

est Branch of Lackawanna River, Susquehanna County—Stocked from the mouth (near Uniondale) upstream to Burnwood, 5 miles.

ckawaxen River, Pike County—Stocked from the vicinity of Lackawaxen upstream to Pike-Wayne County line, 12 miles.

ckawaxen River, Wayne County—Stocked from the vicinity of Prompton upstream to the source at Beaver Meadow Reservoir, 22 miles.

high River—Stocked from about two miles below White Haven upstream to the source. This would include section bordering on Luzerne and Carbon Counties, Monroe and Luzerne Counties, Lackawanna and Monroe Counties, Wayne and Lackawanna Counties—a total distance of about 30 miles.

Tioga River, Tioga County—Stocked from the bridge above Blossburg upstream to the last bridge in this County on this stream, 9½ miles.

LAKES AND PONDS

Adams County—Hartman Dam on Marsh Creek—3 acres in Franklin Township. Chambersburg Water Company Reservoir on Birch Run—22 acres in Mountain Township.

Bedford County—Thomas W. Koon Lake on Evitts Creek—268 acres in Cumberland Valley Township. Beaver Run Rod and Gun Club Dam on Beaverdam Creek—1 acre in Kimmall Township. Replogle Dam on Yellow Creek—6½ acres in Woodbury Township.

Centre County—Metzgers Dam on Spruce Creek—1½ acres in Ferguson Township. Roosevelt Dam on Stoney Creek—3 acres in Potter Township. Penns Cave Dam on Penns Creek—4½ acres in Potter Township. Poe Valley Dam on Big Poe Creek—27 acres in Penn Township. Green Valley Dam on Little Fishing Creek—2 acres in Walker Township.

Clinton County—Woolrich Water Company Dam on Chatham Run—5 acres in Pine Creek Township.

Cumberland County—Wade Dam on Hogestown Run—3 acres in Silver Springs Township. Boiling Springs Lake on Yellow Breeches Creek—9 acres in South Middleton Township. C.C.C. Dam on Hairy Spring Hollow Run—3 acres in Southampton Township.

Erie County—Lake Pleasant on Branch of Alder Run—60 acres in Southwestern Venango Township.

Forest County—Ward Ranch Pond on Coon Creek—10 acres in Kingsley Creek Township.

Huntingdon County—Greenwood Furnace Dam on E. Br. of Standing Stone Creek—3-34/100 acres in Jackson Township. Whipple Dam on Laurel Run—15 acres in Jackson Township. Barree Dam on Barree or McClain Run—2 acres in Porter Township.

Jefferson County—Manner Run Dam on Manner Run—1 acre in Polk Township.

McKean County—Kushequa Pond on Kinzua Creek—13 acres in Hamilin Township.

Monroe County—Snowhill Lake on Mud Run—3 acres in Price Township.

Montgomery County—Upper Perkiomen Valley Park Lake on Deep Creek—38 acres in Upper Frederick Township.

Snyder County—Meisers Mill Dam on West Branch of Mahantango Creek—2 acres in West Perry Township.

Union County—Halfway Dam on Rapid Run—6 acres in Hartle Township.

IMPORTANT TO FISHERMEN!

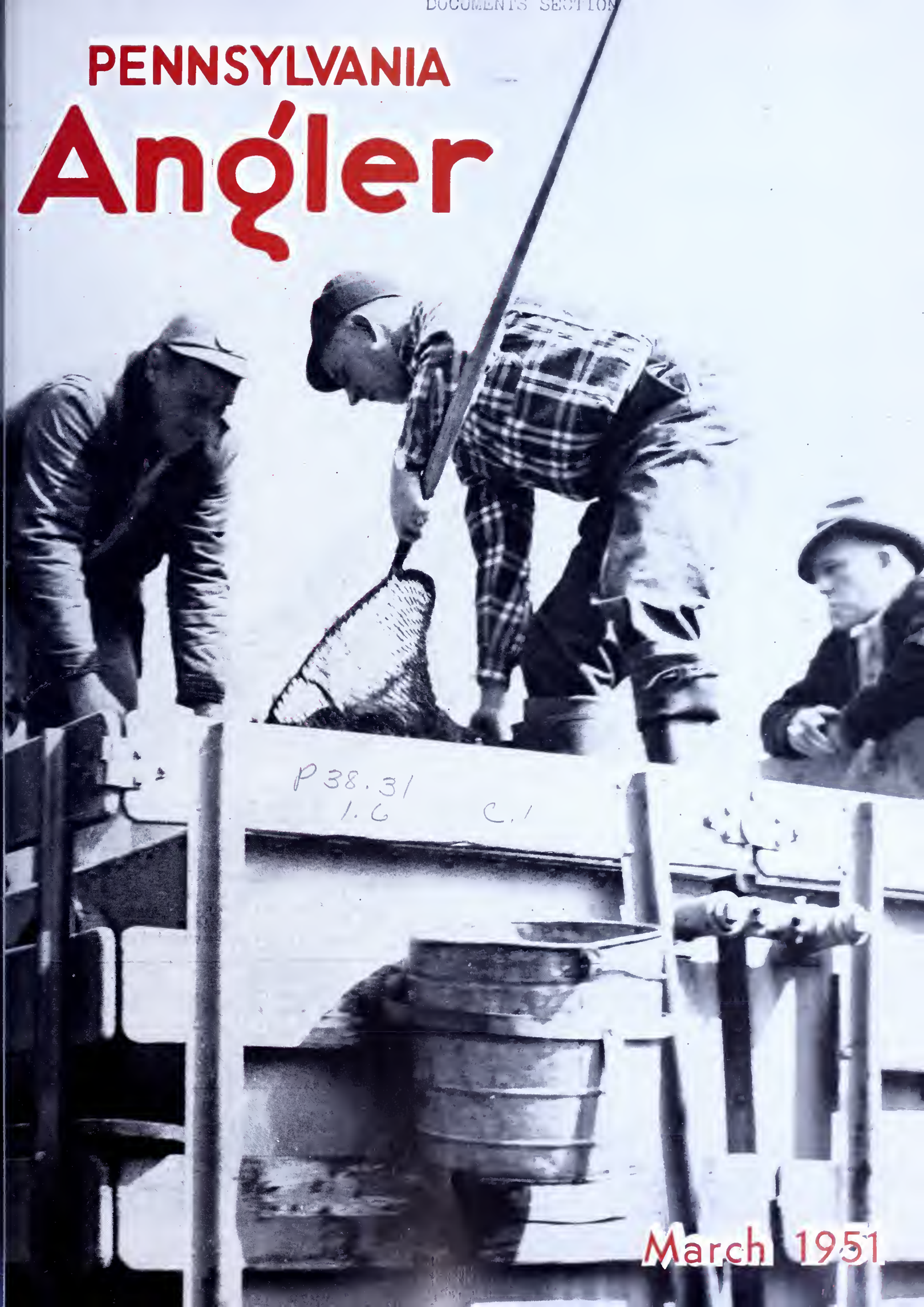
SPECIAL NOTICE!

"By Special Amendment of the Fish Laws passed by 1949 Legislature--All Fishing is Prohibited in Any Waters from Midnight, March 14 to 5:00 A.M., April 15, 1951, Except in Rivers, Lakes or Ponds Not Stocked with Trout."

PENNSYLVANIA FISH COMMISSION

DOCUMENTS SECTION

PENNSYLVANIA Angler



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March 1951

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VOL. XX—No. 3 MARCH, 1951

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HON. JOHN S. FINE, Governor

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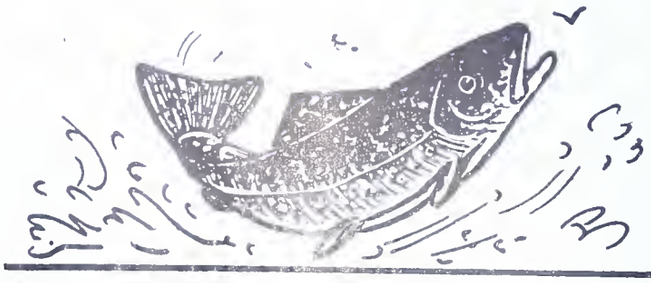

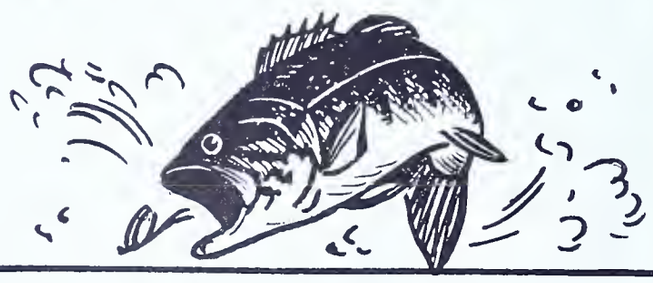

OMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
SH COMMISSION
HARRISBURG, PA.

The Angler

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Trout Stocking—
Certain Signs of Spring

Spring

BIGGEST SHOW ON EARTH . . . yet, in these days of thriller movies, TV, astounding scientific achievements and dogma, millions completely miss the most simple but wonderful drama of life. Not so the angler, ever close to his Maker. He need not search for Spring. It engulfs him, fills his heart and soul with its clean, virile youth. The wisdom of all the ages is at his feet. He rubs elbows with the first green shoots of the odorous skunk cabbage as he wriggles under a fence. His eyes throw open the windows of truth to the glorious robes of the redbud, the purity of the dogwood blossom, the soft pastel, woven skillfully in a meadow of bluets. He marvels at Spring thrusting through a world of suspicion, greed, blood, and lies. In all that meets his glance there is hope, peace and life eternal.

You can feel proud of any catch of panfish, they're fun, not fussy about bait or lures, provide pleasure for entire family.

DON'T OVERLOOK THE PANFISH

By DON SHINER

Those who scoff at the little fellows are missing another chance to recapture the charm of boyhood angling

PENNSYLVANIA is fortunate having so great an abundance panfish in practically all its lak and streams. These little fish give sor real sport to the fishermen. Unfortu ately they are sold short many tim There is grand sport catching trout a bass, but every angler should spend few outings for these panfish and many ways, their hours spent astrea will be filled with many pleasurat events.

Today the fishermen of this co monwealth must face reality and r alize there is a tremendous number citizens who purchase a fishing licen each year. It seems everyone wants go fishing. This of course is only n tural. As a result the streams a lakes containing trout and bass are overcrowded there is little room f the many newcomers each year. The is a limited amount of miles of fishab water in Pennsylvania and the ava able water can not be increased in pr portion to the amount of fisherme When this problem is considered, actually offers no difficulty to ove come this crowded condition. In co parison to trout fishing, there are rel tively few anglers who spend mu time for the panfish. If more fisherm would, it would not only reduce t angling pressure on the trout and ba streams but they would find that catc ing panfish is really fun. These lit fish are certainly worth the attenti of everyone.

Perhaps it was the unusual ever on one particular outing that sold r completely on these panfish. Few o ings that can be recalled was as mu fun as was the fishing for these fi It was such an enjoyable outing tha didn't hesitate going back to that po the next day nor do I hesitate now go fishing for Calicoes, bluegills perch.

It was toward the end of August th I visited an artificial pond with inte tions of fishing for bass. It was rath early in the morning when I push the boat from shore for I recall that was quite foggy on the lake and som what chilly. For more than two hou I was plug casting for bass but I didr hook a fish or get even as much as strike. I recall making at least tv hundred casts.

The sun soon broke through the mi and then I turned the boat arour headed back to shore, fishless and wi the attitude of quitting for the day. was when I was climbing out of t boat that I noticed huge clouds of sma black insects buzzing about in the a They came across the water a seemed to swarm everywhere. Th fell in the water, flew into my ey crawled up my face and arms. It w

Calicos run the size of your hand and larger. They're easy to clean, make sizeable chunks r the frying pan.

possible to avoid them. It was ant ne! The time of year when black s emerge from the ground, equipped h wings and swarm about in huge uds.

They seemed to roll out over the e, many falling into the water. And sooner had they appeared than the n began feeding. Everywhere one ked on the lake the surface was oken with jumping fish.

t was one of the two or three days h year that the ants swarm about d the fish gorge themselves on those t fall into the water. There was way of telling what kind or size n were taking them for the lake face was so broken up from nping fish that it looked as though was raining!

had a bass action fly rod back at the car but had no small flies. I began ripping apart some streamer flies and used the salvaged feathers to tie a few small flies. They were of no particular pattern but they were the best I could do.

Pushing the boat out into the water again, I began casting. The instant the fly hit the water it was sucked under. I lifted the rod tip and was fast to a fish—and the way it battled I could tell it was no small one. Playing it toward the boat, I lifted it out of the water and saw that it was a bluegill nearly the size of a small dinner plate.

The next cast produced another. In any direction I cast I was fast to a fish. I landed bluegills, sunfish, pond shiners, perch, calicoes, crappies, bass, everything was hitting!

This kept up the entire day. I kept fishing until mid-afternoon, forgetting to eat my lunch, catching fish until I was tired. I lost count after a hundred, but it must have been three times that amount. I kept some big sunnies, a few calicoes, a nice bass, returned the rest to the pond. Toward the end I was putting back everything. Bluegills that measured better than 10 inches in length, perch that measured fourteen and fifteen inches were put back in the pond. It was truly a field day, the first that I had ever experienced.

I'll never forget how those little trojans battled! I actually had my hands full to land some of them even on a heavy bass fly rod. I kept thinking what they would do to a light trout rod.

I went back, time and time again, after that day to the same pond and to others to fly fish for those panfish. Once since then I again hit the ant day, this time it fell on August 24th. But each trip I made to fly fish for the little trojans I always came home with a weighty creel, a day of fine fishing and an outing that was nothing short of fascinating! Why, I wouldn't let a season roll by without at least a dozen trips of fly fishing for them now. I caught as many if not more panfish on my light trout rod than trout and it's a toss-up on which fish I had the most fun. Sure, I sit for hours during the winter and tie up flies to represent the May flies and am as anxious to go astream when trout comes into season as anyone possibly could be. But I also look forward to the end of June, July and August when the panfish will

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Here's where the panfish like to hang out . . . in and around stumps, weeds, logs and lily pads. This view of one end of the Sax Pond, Sullivan nty, sure looks like it would produce!

PROOF *In The* PLEASURE

Up a lazy river in the warm Spring sun. Here, an angler has a chance to observe Dame Nature thrust aside Winter, put on fresh, green garb.

You may be a sucker for a left hook . . . a double cross or simply a sucker for sucker fishing . . . If it's the latter . . . you can bet it's a pleasure!

By N. R. CASILLO

AS A BOY in my native heath I recall catching suckers with a bushel basket or an old burlap sack or anything suitable that was handy, the receptacle actually filling to overflowing in a matter of minutes with the fine spring-run fish.

A new highway fill had backed up an excellent sucker stream so as to form a small shallow pond on the upper side of the road embankment. A four-foot tile carried the overflow under the roadway and thence down the stream.

With a foot or two of water flowing through the tile it was an easy matter to place a basket under its opening where there was a convenient drop of about two-feet, and then drive the massed fish in the pond down through the overflow.

To vary the monotony of such easy fishing we sometimes caught them with our bare hands. The idea was to drive the frantic fish through shallow riffles where strategically stationed companions scooped them up on to the banks. It was rare but exceeding cold sport since the spawning runs often took place while the stream still carried considerable quantities of slush ice.

Either method was an ideal setup to catch suckers in quantities and probably was the chief contributing cause for the disappearance of those splendid fish from that particular stream.

Done to a nice golden brown I recall those fish as being the most succulent and tastiest I've ever eaten, the flaky flesh being both firm and flavorful.

However, the foregoing nostalgic observation did not tally with a friend's opinion concerning the palatability of suckers. "Why," he began, "that downdraft snout of theirs is enough to spoil any one's appetite."

"Maybe so," I came back, "but bear in mind that the sturgeon doesn't sell for over a dollar a pound because of its sulchritudinous nature."

We can't all aspire to be fly fishermen equipt with bamboo wand and tapered line, and fish for the leaping guananiche or lordly salmon. However, any one can employ a reasonably good outfit and have a lot of fun with the modest sucker. And there is no better time than in late winter and early spring when the sun has mounted higher in the heavens and its welcome warmth begins to be felt. Also, it is a time when the sucker is at its best, readily accepting worms and then giving a good account of itself on the end of the line.

Just about the time when the sun begins to flatten the winter's accumulation of snows, and vagrant breezes carrying a suggestion of Spring to ensnare you with their irresistible wiles, reports begin trickling in from up Lake Erie way to the effect that the suckers are running. It's an annual occurrence, the reports, we mean, and however grossly exaggerated they may be we unfailingly and regularly swallow hook, line and other well-known terminal tackle.

The information may come through second, third or more handed or it may come from a piscatorial enthusiast who was there on the spot. But, regardless of its source, we usually manage to get there either too late or too soon or the water is too rough or worst of all, the fish are not in the mood. Since one or more of the immediately foregoing has repeatedly befallen us we are beginning to suspect that those reliable sources are anything but that.

Late last winter on one of those days when the willow buds swelled enthusiastically albeit prematurely, persistent reports came through to the effect that the suckers, "redhorse suckers, mind," reiterated my informer, were running up Elk Creek.

"Everybody is getting fish," effervescently bubbled Art Alexander whose one disadvantage is being in the sporting goods business and thereby a target for every itinerate purchaser of hooks and carrier of tales.

"Say no more," I said quietly. "When do you want to go?"

Since this was the usual procedure he evinced not the slightest surprise at my quick and complete surrender.

"Well, let's see. Bill said he can go on Saturday—that's tomorrow," he thoughtfully reminded.

That early March Saturday turned out to be a day of days. Early that morning the mercury was trying to break every existing record as it mounted higher and still higher. Robins, redbirds and bluebirds threw discretion to the caressing breezes and literally filled the air with their singing. It was like a contagion. Everything caught it.

When we arrived at the mouth of Elk Creek up near North Girard, we found that all the sucker fishermen in this part of the country were apparently afflicted with the prevailing distemper. They were to be seen on every hand along the meandering stream; side by side, back to back and in successive rows. It was a jolly assemblage, every individual hugely enjoying the miraculously warm sun even if he wasn't catching fish.

"What happened to the fish?" Art glumly enquired of the nearest neighbor with whom he was practically rubbing elbows since we had already squeezed into the first available space large enough to accommodate us.

"They quit running shortly after daylight," cheerily replied the chap.

"Did you get any?" Art persisted.

"All that I want," replied the fisherman as he reached for one of those refrigerated baskets and dragged it toward him. "Here, want to see them?"

Long before he had the lid unfastened we crowded about to see the purported catch.

"There," grunted the stranger as he tipped the basket in our direction.

I gasped while Bill mumbled incoherently.

"See!" exclaimed Art, "I told you guys that we should have gotten here before daylight."

It was a beautiful catch. Reposing on a bed of crushed ice were six fine fish, five of them trim so-called white suckers weighing better than a pound apiece while one was a large redhorse sucker indigenous to some of the

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Some Cats I Have Known

By THAD BUKOWSKI

THE elegant fisherman calls him a hornpout but through impressive the name may be, it is not only confusing but perhaps a trifle archaic to us more liberal languaged Isaak Waltons. We know him as the bullhead, or more commonly, among all species, as the "cat."

Bewiskered, with beady eyes looking down along each side of his head, slippery, razor sharp points sticking out from three fins around him, he is anything but beautiful. Yet he might be considered a quite gentle fish, if one doesn't foolishly handle him. And few fish can give one more pleasure before the game fishing season comes in, than the cat.

The cat isn't too particular about his choice of bait either—almost anything will do. If you want to feed him nightcrawlers, he'll accommodate you; he'll also take liver, but then again we might say that his *piece de resistance* is a nice soft crab, or a dead minnow.

In my short span as a fisherman I can recount a number of successful ventures for the cat.

Seems like my earliest recollections go back to the middle thirties when I scraped up an honest buck for my first steel rod. It was a light, whippy, affair that was quite popular during the depression among us kids because of its cheapness. I paraded my rod back from Huston's Hardware along Long Avenue in New Castle, Pa., and like any inquisitive youngster, nothing would do except that I use that rod as soon as possible. So, barefooted, I ambled up Pennsylvania Avenue, to the Big Run, near the Weinschenk Greenhouses, and threw in my line at what was then known as George's Bridge. I don't know what made me do it but after fishing a short while with worms, I wound in my line, and snagged a large dead minnow that lay on the rocks at my feet, onto my hook. Tossing that minnow around in the riffles gave me a kidlike pleasure—I didn't at all think of catching a fish on it—I was just getting the feel and the play of the rod, using the deceased as a would-be catch. My arm tired and I let the minnow rest at the bottom of the pool for a second. To my surprise I got a strike. Dumbfoundedly wondering what was happening, I let out line then set the hook. My light pole arched almost double as in surprise I realized I had struck something relatively big in that small pool. I played the low working fish, finally getting it to shore to observe that it was a nice cat about 15 or 16 inches in length. That was one of the most confusing catfishing episodes of my life.

On another occasion my brother and I had been fishing the Cement Dam in Lawrence County with no apparent success. Towards nine in the morning, like any venturesome kids we noticed a boat lying along shore. We hadn't thought of the possibilities of using it till this late because one end of it had been battered out. But with the craziness of kids or perhaps a bit of their ingenuity, we loaded ourselves into the other end, so that it rode high on the empty side, clear of the water. In this manner we pulled into the center of the lake to continue our 'up to this time' fruitless fishing. No sooner had we anchored than I got a hit on a soft crab and pulled in a gasping, choking noisy bullhead, a bit over a foot long Before I rebaited, my brother wa working one towards the boat.

My luck stopped at this moment But not my brother's. His continued until he successfully pulled in five nic bullheads. It just shows you what ca happen when luck is with you. Thoug I threw in all around him, fishing i the same boat, I had nary anothe strike and he was contacting right an left. To the fisherman who doesn't be lieve in this element of luck I migh add that the last one he caught ac cidentally. A cat, previously engage by another fisherman and then los with a bobber and length of line sti remaining with it, swam past m brother's line and engaged the hool Spooling out line my brother quite un knowingly yanked after he thought h had a run, only to land a fish whic hadn't touched the choice tidbit whic dangled in front of its gaping mav What an ignoble way to die—withou dinner. I gave up in as much disgu as I believe the cat did, and rowe our rickety boat back into shore.

The last cat I had anything to c with was a monster as cats in sma Pennsylvania lakes go. My father ha been fishing throughout the summe always coming home with the sto that the big one got away. I said him:

"Okay, I'll take you out next wee and catch that big one." He laughed

We were fishing with softshells

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The gent with the lance might be bullheaded, noisy and without manners, but he's a right guy just the same.

Here's what happens when . . .

OL' MAN WINTER

and

OL' MAN RIVER

'eam up — Go on Rampage

Photos by Bob Motter

STACKED UP . . . ice cakes piled up to 15 feet represent quite a bit of home-made ice cream.

DAILY MAIL VIA BOAT . . . Wrightsville, Pa. residents ditched autos, took to boats when Susquehanna raised a rumpus last month.

SQUEEZE IS ON . . . boat house! There'll be no boating today. When river rose 19 feet above normal, more than 50 families fled their homes.

ICE MAN'S DREAM . . . these cakes weigh plenty! Piling up against the shore, the ice took many a summer cottage off its struts. Sportsmen worry about damage to fish life in Lake Clarke.

YORK-LANCASTER BRIDGES . . . linking Wrightsville and Columbia, the latter town in state of emergency when reservoir flooded. Railroad cars filled with scrap iron held down bridge.

WALLEYE TACTICS

By Dick Fortney

Old Bleary-eye is a funny cuss, full of the Old Nick, can shave you clean as a whistle with his sharp gills and bite the hand that feeds him. Yet, he's top man in the frying pan!

SCIENTISTS call it Stizostedion vitreum. Canadians call it a pickerel or dore. Along the north branch of the Susquehanna it is known as the yellow bass. And it has a dozen other names in the lakes and streams of North America where it is widely distributed.

But whatever name it is called, the walleyed pike has two characteristics which recommend it to the fresh water fisherman.

It's game and capable of a good fight when hooked. And in the opinion of many fishermen who have had a lot of experience in the matter, its meat is more delicious than that of any other fresh water fish.

Walleyes are fairly plentiful in the larger rivers of Pennsylvania and have taken up residence in some of the bigger tributary creeks. They also are found in certain lakes of the state.

Because they feed on the young of other species, including bass, it is the policy of the Pennsylvania Fish Commission not to introduce them in waters in which they are not already located or in waters which both the commission and the fishermen prefer to have retained as bass areas.

But the walleye reproduces busily, and there is little likelihood that the species will become extinct in areas where it has lived for years.

I've had a spot of admiration for the walleye ever since one chilly autumn day, some years ago. It was about 5 o'clock in the afternoon, cloudy and windy, and I had about decided to call it quits after an afternoon of persistent but fruitless fishing.

I was using a cigar-shaped plug with propellers fore and aft, fishing a deep creek pool. On what I had decided would be the last cast of the day there was a solid strike, and the bend in my casting rod indicated that a heavy fish had taken the plug.

The battle with the fish was anything but spectacular. It stayed down near the bottom well out from the shore on which I was standing. It fought for s freedom in a slow, dogged styl swimming first upstream and th down with a steady, powerful fo There were no sudden bursts of spe and no surface action at all.

The fish tired in a short time a was beached on a sandy shore.

It tipped the scales at a little m than seven pounds.

The successful walleye fishern need to know a few facts about habits of this species of fish. Walle usually travel in schools. Their fav ite food consists of minnows and young of other fish. They engage their greatest feeding activity late the day and at night. They like la and deep pools where they have ple of hiding places.

Minnows probably are the No. 1 k for these fish—and to catch them minnows the angler has to keep bait on the very bottom of the stre or lake. This usually means fish with a weighted leader, and the us practice is to lower the lure until sinkers touch bottom, then raise rod tip a foot or so, and wait for acti

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MAK TALKS TROUT

By Albert G. Shimmel

ɔmetimes it's sheer agony fishing for trout . . . frozen, sunburned or soaked you ɔw never to go again. It's "sweet agony" however and such a nice way to suffer.

'HE SUN made dappled patches of light through the walnut leaves ɔve and the down stream wind de them dance like the flight of tless midges. Across the stream the rdwoods and hemlocks struggled for foothold on the gray ledges that ust themselves upward from the ter. The pool under the ledge zed in the white light of late July. k lay propped on an elbow, his fly lecked hat pulled low to shade his es. Except for puffs of lazy smoke m his after lunch pipe he appeared eep.

'You know Al," he said, "fishing for ut is one of the most interestin' ngs a man can do and the fellers t follow it are a queer bunch. Just a disease it gets a hold on a feller l the first thing you know it's a habit. ess it's the queer things that hap- is that gives a feller the craving to p it. Me, I've fished in sunshine l dark, good weather and the kind og wouldn't go out in, I've swore a lion times I'd never go again and n as quick as skat I'd be ready to again. I've froze my fingers and burned my neck, all for the excite- nt of getting a holt of one trout or t seein' 'em rise."

Mak shifted his position and pushed k his hat from his forehead. His r showed silver in the bright light his eyes were as enthusiastic as a year old's.

'I mind the time I was taking a feller Little Plum Creek. He was one of m state senators or something that d got put on a fish committee and nted to go fishing so he would know at the fuss was about. Don't re- mber much about the trout but re- mber how we saw a beaver out on bank. Must have been asleep or nethin' cause Bill, that was the lers name, sneaked up and grabbed by the tail and was going to pull it wn into the water to see it swim. ell sir that beaver just kinder' took the slack and slapped down with his l, jerkin' Bill forward and splashing n with mud and water. By the ne Bill got his eyes open again that aver was under water and makin' ne for other parts. Bill said after- rds that it was just about like trying hold the hind leg of a kickin' mule. on't know what he learned about outin' but he had at least one experience with beaver that was worth rememberin' . . . He must have done all right at legislating because I hear he's still on the job.

Mak sat up, removed the ashes fron his pipe by the simple method of bumping it on a convenient stone. His eye twinkled again as he examined a small Mayfly hanging from a near by grass blade.

"Come late afternoon they'll take on that gray-18 with the olive body. Right now the smartest thing we can do is just wait. Seems like that business of just sitting is getting to be a lost art. People so busy goin' here and there that they don't git time to catch up much less get reat acquainted with themselves. Look at that feller out there, lickin' the water, quick and nervous like, as if he could club the trout into taking."

We watched the angler as he moved restlessly up through the pools and out of sight.

"Maybe he's only out fer exercise," was Maks comment. "If so he's gettin' plenty and a good sunburnin' to boot. Now he's scared most of the trout into the hides under a stone or under the undercut of the bank. Come evening and a hatch they'll keep handy cover to keep some feller from trompin' their tails off. It'll take some easy wadin' and soft castin' to get 'em to take."

"Trout are queer critters, and always doin' the unexpected. Last week

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FACSIMILE "HEADINGS" OF TWO EARLY AMERICAN SPORTING PAPERS

AMERICAN FISHING BOOKS

By Charles M. Wetzel — Part 3

The author, in this installment, enriches your angling education while the first split bamboo rods appear on the American scene, all twelve to fifteen feet of them!

THE SECOND CYCLE, 1848-1915

ABOUT this time a new era in the development of angling was taking place. This period was marked by the spread of railroads into hitherto inaccessible sporting regions; the introduction of the split bamboo fly rod; Thad Norris' account of the dry fly struggling to appear on the water; the first account of stream entomology by Roosevelt; the general acceptance of the waterproofed braided silk fly line; the attention directed to the black bass as a game fish at a time when the East was practically fished out; the first use of bait casting equipment; the gaudy fly era and its gradual decline; the introduction of the brown trout in America; the beginning of the dry fly craze; the advent of the automobile; the first wooden plugs; the first mention of the left-hand haul, by Dean Sage; the floating bass bugs pioneered by B. F. Wilder, and the introduction of the bucktail flies by Emerson Hough.

Up to 1840, there were only about 2800 miles of railroads in America, however, from here on followed a stream of railroad building that did not reach its culmination until the advent of the automobile about 1900. Explorations for a railroad route from the Mississippi River to the Pacific Ocean were started by the government in the early fifties, and with the building of the line shortly thereafter, there followed an influx of sportsmen into this vast and hitherto inaccessible region. In the East too, branch lines were being extended into remote places, all of which contributed greatly towards that fished out condition which manifested itself some thirty to forty years later.

I do not propose here to enter into a controversy as to the originator of the split bamboo fly rod, but it is commonly credited to Samuel Phillippi of Easton, Pa., about the year 1848. This material, while possessing definite advantages, was slow in gaining a foothold, and it was not until some fifty years later that it was universally use and acclaimed as the best. This lon period of time may be accounted for b the fact that in those days there wei no automobiles, radios or telephone the country was still thinly inhabite and the principal means of conveyanc was by horse-drawn vehicles an trains.

While Phillippi must be given th credit for originating the first spl bamboo rod in America, yet the fac remains that bamboo rods of rent, c split, and glued-up construction, wer used in England sometime before 184 Edward Fitzgibbon (Ephemera), in hi *Handbook of Angling*, 1847, mentior split bamboo rods of three-piece cor struction and states that:

"In my opinion rods made entirel of lancewood are the worst; and thos made entirely of rent and glued jungl cane (Calcutta) are the best. The must be most carefully fashioned, an no maker can turn them out withou charging a high price. I am also of th opinion that they will last longer tha any other sort of rod, and are far les liable to warping. I have a high opinio of their elasticity, and Mr. Bownes fishing tackle maker of No. 12 Bel yard, Temple Bar, showed me once, fly rod made in this, my favorite wa that had been for many years in us and was still straight as a wand.

er saw a better single handed rod."

'he above would seem to indicate ht bamboo rods of split and glued cstruction were used in England ite some time before Phillippi was rdited with the invention in America. An article by William Mitchell in *ort with Gun and Rod,* 1883, states ht:

Phillippi never made a complete d of split bamboo, only a tip and a cit to a three pieced rod, the butt of s, and the joint and tip made in three tions. The first complete split bamb rod was credited to Mr. E. A. Green, of Newark, N. J., in 1860. Thaddus Norris of Philadelphia, Pa., is ntioned in connection with the inntion, but never claimed it. In 1863 1864, Mr. Murphy, an acquaintance Mr. Green, commenced to manufacre split bamboo rods for the trade; ese were in four sections. The first rds constructed in six sections that re put into the market, were made Mr. H. L. Leonard, of Bangor, aine. This was about 1870, and Dr. H. Fowler soon followed; Mr. urphy claims to have made one metime before."

In 1849 Henry W. Herbert, writing der the pen name of Frank Forester, oduced *Fish and Fishing.* Herbert, Englishman, came to America in 31 and his untimely end by suicide enty-seven years later came as a ock to the many readers of his books d articles on the outdoors. He was a olific writer, and in this country ocpies a role comparable with that of gland's Surtees, whose sporting vels are so widely read and acimed. All of Herbert's works are in eat demand, especially the betterown ones such as *Fish and Fishing, eld Sports in the United States* and *merican Game in its Season,* as well his sporting novels, *My Shooting ox, The Deer Stalkers, The Quorndon ounds* and *The Warwick Woodlands.* ppose we check the contents of *Fish d Fishing* to see if any changes had en wrought in fishing rods since ethune's work of 1847 and the credit ven to Phillippi in 1848. Apparently ere was none, for Forester mentions at:

"The trout rod should be twelve feet ng, and as pliant almost as a coach hip, equally bending from the butt the tip. It should be composed of ckory, lancewood or bamboo, with a lid butt of ash, at the extreme lower d of which should be attached a mple click reel with a balance handle, t without a stop, capable of containg thirty yards of London made hair silk line, tapering equally from the el to the point. The bottom, or leader it is generally called in America, ould consist of about five yards of round tapering silk worm gut, and the flies should be three in number. Plain rings should be used on a fly rod, and not the new tubular metallic guides which stiffen it too much, and prevent its equal curvature under strain."

Concerning flies, Forester comments:

"The flies which I hold best are the red hackle, the ginger hackle, the black hackle, occasionally varied with bodies of gold or silver tinsel, the March Brown or dun drake, the pale yellow dun, and the blue dun—both very killing flies—the cowdung fly, the stone fly, alder fly, the green and grey drakes, and for twilight fishing, any of the grey, cream colored or mealy moths."

That same year, 1849, ushered in *The Adirondack,* by J. T. Headley. His account of taking two-pound brook trout out of the Raquette River furnishes entertaining reading. The work was a forerunner of many others on the Adirondack wilderness, written in a like vein by later authors.

In 1851, C. W. Webber brought forth *The Hunter Naturalist.* This work, embellished with colored plates, contains *Trouting on Jessups River,* and also describes a meeting with Audubon, the celebrated ornithologist.

A rather rare work is *The Blackwater Chronicle,* attributed to Pendleton Kennedy, which made its appearance in 1853. This humorous account deals with a trout-fishing trip in the Virginia mountains by five adventurous gentlemen who, after catching innumerable trout at the Blackwater Falls, lost their way when returning to civilization.

Hills, Lakes, and Forest Streams, 1854, by S. H. Hammond, is another book on hunting and trout fishing in the Adirondacks. Like the majority of other works on the Adirondacks, this book affords entertaining reading but offers little detailed information on the trout fisher's equipment.

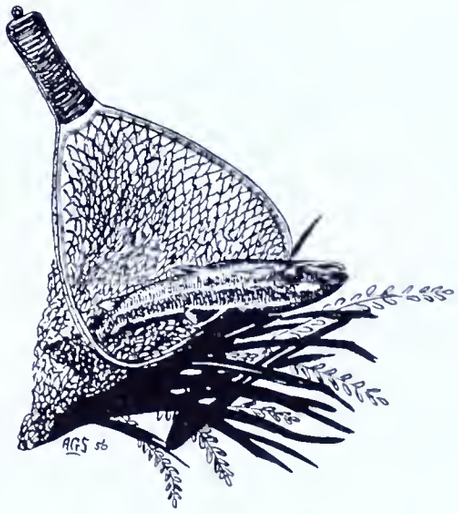
In 1855, Lieut. Campbell Hardy produced *Sporting Adventures in the New World.* Appearing in two volumes, this work deals with moose hunting and salmon and trout fishing in Nova Scotia and New Brunswick. The author fished in the majority of the well-known salmon rivers, such as the Metapediac, Restigouche, Kedgewicke, St. John and the Nepisiguit at a time when anglers were few and far between. This was an informative work on the Canadian Provinces, and the chapter on *Flies and Tackle for North American Waters* covered a lot of information that was much needed around that time.

Adventures in the Wilds of the United States and British American Provinces, by Charles Lanman, 1856, includes earlier works written by him. Among his angling and writing contemporaries there was none who had traveled so widely, or into such remote and unsettled districts, as had Lanman. His *Adventures of an Angler in Canada, Nova Scotia and the United States,* London, 1848, contains more fishing than his other volumes, and is included in *Adventures in the Wilds* under the title *A Tour to the River Saguenay.* All of Lanman's works are of great interest for the author possessed a good education and wielded a skillful pen. Containing Indian legends and incidents of travel in a then thinly-inhabited country, his books form a valuable adjunct to that class of literature known as Americana.

In 1857, Theodatus Garlick wrote *A Treatise on the Artificial Propagation of Fish.* Unlike an earlier work, *A Complete Treatise on Artificial Fish Breeding,* edited and translated by W. H. Fry, in 1854, this work is distinctly American and Garlick can safely be regarded as the father of fish culture in this country. Like all pioneering tasks his work left a lot to be desired; however, it marked the beginning of a vast experimentation that, due to a crying and insatiable need, will perhaps never reach its culmination. In addition to information on fish culture, the author has also included directions for angling for those fishes described.

The Life of William T. Porter, by Francis Brinley, 1860, covers the career of one of the most colorful sporting figures of the period. Porter, a native of Newbury, Vermont, came to New York and with James How, another young printer, established *The Spirit of the Times* in 1831. The first number of this weekly sporting paper catering to devotees of the turf, field sports, literature and the stage was presumably issued Dec. 10, 1831, although Horace Greely, who worked there as a compositor, stated that it was Dec. 31, 1831. Some doubt exists since these early numbers cannot be found.

(Continued Next Issue)



FISH COMMISSION ACQ

FOR THE EXPANS

RESEARCH AND MANAGE

THE Pennsylvania Fish Commission announces the acquisition of one of the largest limestone springs in the state and three and one-fourth miles of a famous trout stream to be used in the expansion of its research program. This is Benner Spring and a portion of adjacent Spring Creek on the property formerly administered by the Trustees of the Western State Penitentiary. Fishermen will recognize this as the stretch of water located back of the Rockview Prison Farm in Centre County. The spring itself, which flows over 8,000 gallons per minute, is located on the old Benner Estate, a famous landmark.

Executive Director Charles A. French has long sought for means of expanding the technical branch of the Commission. Much time has been spent studying and investigating likely sites adjacent to the present laboratory at Bellefonte. Benner Spring appeared to be the best by far for these purposes if it could be obtained from the penitentiary authorities. Dr. J. W. Claudy, Warden, Western Penitentiary, was approached on this subject; and, fortunately for the fisheries work in Pennsylvania, Dr. Claudy was very agreeable to Mr. French's suggestion that the Welfare Department lease this spring and a designated area to the Fish Commission for research work.

Through Dr. Claudy's interest, the Welfare Department and the Western State Penitentiary officials under a long term lease, transferred not only the major portion of the water from the spring but also forty-one acres of property including a thirteen-acre meadow and the entire section of Spring Creek that flows through the Western State Penitentiary property approximately three and one-fourth miles.

Benner Spring. Men are standing near the three major sources. This spring, which flows about 8,000 gallons per minute, empties into Spring Creek as shown in background.

Mr. French stated today:—

"The present efficiency of the Pennsylvania Fish Commission has been brought about by the complete cooperation and understanding between the fish cultural and research staffs. The second floor of the Bellefonte Hatchery has been used as a fisheries laboratory for a number of years. This research station is equipped with modern facilities. However, in view of the greatly increased fishing pressure today, we must be constantly working not only to maintain our present fishing but also to improve and expand our public waters. This increased demand made upon fisheries conservation means increased laboratory facilities and more trained personnel. A portion of each license fee is set aside for this purpose. Additional support has recently been made available by the passage of the Dingell-Johnson Bill."

"The newly acquired stream is to be used as a testing area where such techniques of stream management as trout marking, creel censusing, and stream improvement can be applied. A thirteen-acre meadow lying within the acquired area will be developed into ponds and pools of various sizes and types where feeding, breeding, and disease studies of fishes will be conducted. Benner Spring will be used as the source of water for these experiments.

A flat area along Spring Creek which will be developed for research purposes.

Editor's Note: More detailed photographs of Benner Spring will be included in April issue.

NEW SITE PROGRAM

"The Rock." This is the upper portion of the newly acquired property.

A portion of Spring Creek, looking upstream from end of old millrace.

prove by line breeding experiments. Preliminary studies of this subject have proved promising and with increased laboratory facilities, this phase of fisheries work will be given considerable attention."

"The location of the new research site is distinctly advantageous to the Pennsylvania Fish Commission. It is in the geographic center of the state and within a few miles of the present central fisheries laboratory at Bellefonte. This will allow for centralization of personnel and equipment and will give access to the many vital records located at Bellefonte."

Fish disease in relation to hatchery work and in wild fish populations will have attention.

A substantial part of the fisherman's dollar is used to feed the fish crops at the hatcheries. This averages approximately a quarter of a million dollars each year. Intensive studies will be made to develop the most nutritious and economical hatchery diets. Trout fishing in Pennsylvania at the present time is largely artificial. Legal-sized trout are produced at the hatcheries and planted with the thought that the major portion of each planting will be taken by the anglers. As a matter of economy, like all animal industries, the sooner the fish can be brought to a legal size, the less they will cost."

"It is felt that certain desired characteristics in fishes such as increased rate of growth, better conformation, color, and disease resistance may be im-

Benner Spring. Another view looking up from its junction with Spring Creek.

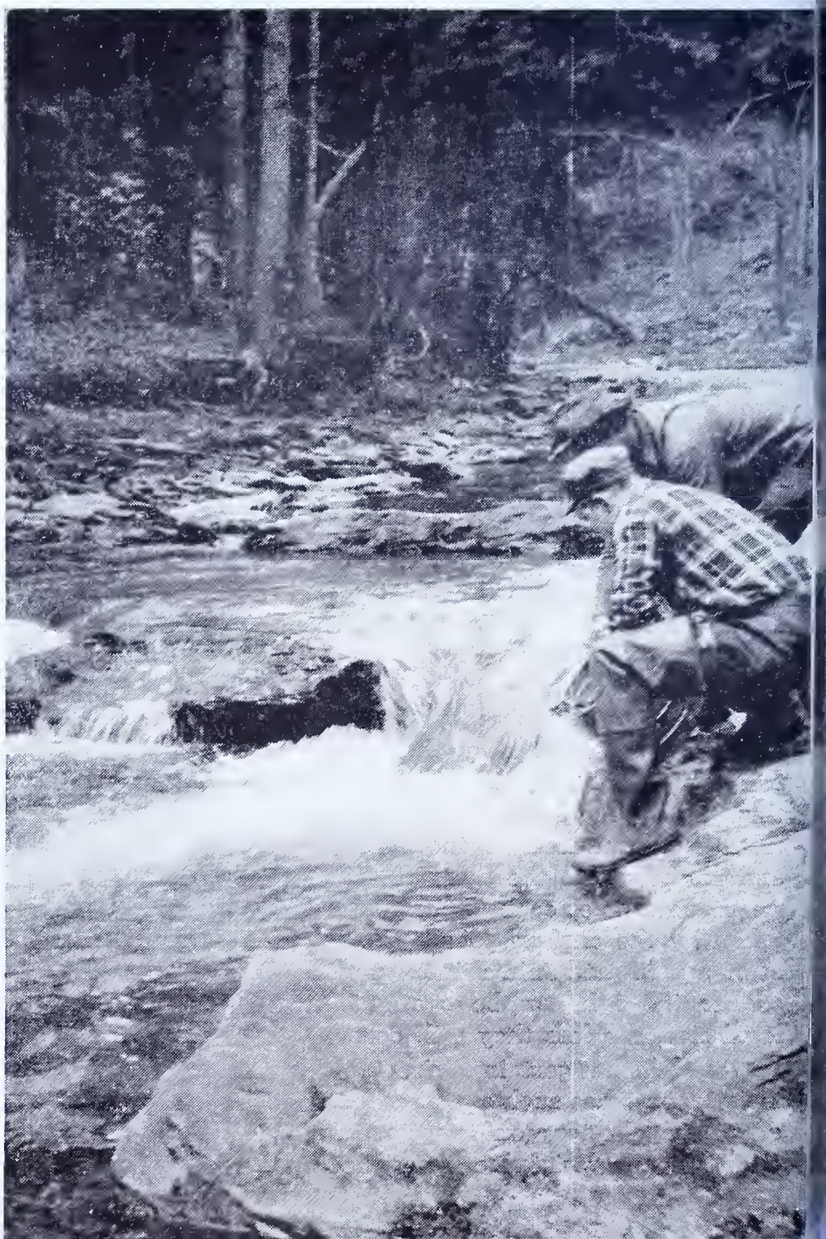
FIRST STOP . . . well, how big are they? ↑

Angler Photo Story

IT'S OFFICIAL! Spring's here at last when the Pennsylvania Fish Commission truck, loaded with trout, plods along the roads (?) that rim the streams all over the state.

Typical method of stocking trout is shown in pictures here. Most folks might think it work but in reality it's a picnic for anglers anxious to get off their red flannels and get on with another Spring.

↓LITTLE GUY gets his hand in the bucket, likes what he sees!



NICE HOLES like this one can support nice trout. →

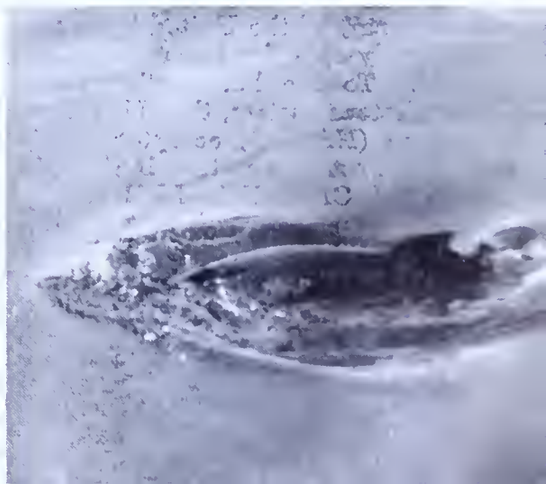
HIS IS LIVIN'. First day out after long winter's nap in easy chair

INTER CASUALTY, Stream claims fox dead from unknown causes.

IN THEY GO . . . into a stream that runs cold, clean and clear.

WINTER TEMPESTS ruin road, truck bogs down. Engineers get busy, put in some rocks and stocking proceeds.

THERE HE GOES . . . a big one, off to seek a new home.



Teen age anglers and anglerettes vied among casters, too, as students from Main Line and Philadelphia high schools practiced plug casting for the PHILADELPHIA MOTORBOAT AND SPORTMEN'S SHOW in the gymnasium of the Lower Merion High School. Some of the promising young casters are pictured above. (Left to right): Jack Bechtel, Bob Price, Ed Schorle, Betty Schorle, all of Roxborough, and Virginia Lofft, of Philadelphia.

Washington . . . in '51

By ELLEN A. DIETRICH

WASHINGTON . . . in '51 is the slogan!

For, Pennsylvania anglers and anglerettes will be among top notch plug and fly casters from all corners of the nation who will vie for accuracy and distance honors at Washington, D. C., from August 15th through 19th, 1951.

At long last, the "National"—a tournament sponsored annually by the National Association of Angling and Casting Clubs—will be held in the Eastern part of the United States, and sufficiently close for Pennsylvanians to attend. To the keen satisfaction of most Eastern casters, the National Association (NAACC) accepted a bid of act as host from the NATIONAL CAPITOL CASTING CLUB of Washington, a member of the MIDDLE ATLANTIC ASSOCIATION OF CASTING CLUBS; and preparations are under way for participation in the big event by fishermen from most states of the Union.

Last year, the Middle Atlantic Association of Casting Clubs (MAACC) became a District Association of the NAACC. Consequently, fishermen-casters who have enjoyed their sport together for the past thirteen years under the MAACC—casting organizations from five states—are, with others throughout the country, looking forward eagerly to NAACC's big tournament, which this year will be staged at the beautiful 3,000-feet-long Lincoln Memorial Reflecting Pool in our National Capitol.

The PHILADELPHIA MOTORBOAT AND SPORTSMEN'S SHOW, to be held in Philadelphia's Convention Hall from March 10th through 17th, 1951, will touch off a series of contest sponsored by member clubs of th Middle Atlantic Association. Schec uled contests will include a Pennsy vania State Championship and a Penr sylvania State Skish Championshi meet, and will be staged at the hom grounds of member organizations c the MAACC. These are expected t provide splendid practice and warm up opportunities for anglers of th Keystone State and nearby who pla to take part in their very, very firs National.

The Middle Atlantic Association c Casting Clubs, too, holds an *Annu Tournament* at Willow Grove Parl Willow Grove, Pennsylvania, in Jun At this writing the exact date is abou to be decided upon. The 1951 MAAC

(Left to right): Edward F. Brasseur and H. E. uBroux, both of DuBois, with Jos. H. Barkley Punxsutawney, take time out to scan the eather indications at Fishermen's Paradise, here, as officers of the Northeastern Division, ey attended a Board Meeting of the PENNYLVANIA FEDERATION OF SPORTMEN'S LUBS.

ournament will be the Association's *urteenth* annual.

The Middle Atlantic Association is omposed of clubs, each one of which ays the huge sum of $5.00 per year ues into the MAACC treasury to entle any and all of its members to articipate in any and all Middle Atantic tournaments. Additional dues f $10.00 per year, however, are paid y each member club to the National ssociation to entitle the members of he respective club to compete for Iational Association *medals* and *chevons,* both in the National tournament nd in any tournament of any memer organization when events are regstered, as they generally are, with Iational.

In almost all of the tournament vents sponsored by both the MAACC nd the NAACC, there are A, B and C classes, so that beginners are not iscouraged by having to compete with ld timers and "top notchers."

Also, there are generally many, nany merchandise awards of equal alue made to participants in all three lasses at most of the Middle Atlantic ournaments.

The MIDDLE ATLANTIC ASSOCIATION OF CASTING CLUBS ereby extends a cordial invitation to ll *plain, ordinary fishermen* . . . If you ave even a slight hankering to try our hand at accuracy or distance ompetition with other plain, ordinary fishermen, just throw your fishin' tackle around a bit—and c'mon out to join the fellows (hubbies and wives, too) in their casting fun this year.

. . . Here's a hint to help you off to a good beginning. Find an old bicycle tire to use as a practice *target* in the back yard—or in the front yard, for that matter. You don't need to be ashamed to let folks see you; for it's a fascinating sport and others of your fishermen-buddies might want to try their hand at it, too.—And permit me to tell you that if you can place your dry fly, wet fly or plug in a bicycle tire (which usually measures up to twenty-six inches in diameter), you'll be well able to hit those so-called "official targets" that tournament casters use. Official accuracy targets for all fly and bait (plug) events are thirty inches in diameter. If they're placed on land, they are raised six inches at the back. If on water, they should lie flat and the casting position is usually above the water — though not more than eighteen inches above.

In competition, *five* targets are generally used for each event; *two casts* are made at *each target,* with a *possible* score of ten points on *each cast.*

For *outdoor* casting, dry fly and bait (plug) accuracy, targets are placed at random and unknown distances as follows: for *dry* fly accuracy, between twenty and fifty feet from the casting position; and for both 3/8-oz. and 5/8-oz. accuracy *bait* (plug), between forty and eighty feet away. For these events, too, targets must *not* be

(*Turn to page* 18)

Many Pennsylvanians were included among some of the nation's top fly and bait casters shown below, as they warmed up for the Thirteenth Annual Tournament of the Middle Atlantic Association of Casting Clubs at Willow Grove Park.

Walleye Tactics

(*From page 8*)

But the wise walleye angler doesn't wait too long. He knows that the fish like action in their victims, so he pumps his rod from time to time, to keep his minnow moving, and at the same time he checks every now and then to make sure that his bait still is alive.

A fishing friend of mine has developed this method to a technique. He'll touch bottom with his sinkers, then raise and lower the tip of his rod methodically, literally tapping the bottom until a walleye strikes. If minnows don't bring good results, this same chap likes to bait his hook with small frogs. Walleyes like them, too.

Casting rod plugs that have plenty of action—provided by propellers, for example, or by hinged bodies that wriggle from side to side—also will catch walleyes. But they should be fished rather slowly. The walleye seems to have a habit of inspecting any artificial lure rather closely before striking it. And a lure that moves too swiftly through the water is apt to be ignored. Maybe walleyes are lazy at times.

Large streamer flies and fly and spinner combinations—both of which imitate minnows—also are good walleye lures.

Frequently, besides, night fishermen will catch walleyed pike when casting surface lures in the shallow tails of large river or creek pools, where the walleyes are roaming in search of food.

As a general rule, however, surface lures are not worth much in angling for this species of fish.

The average walleye caught in Pennsylvania ranges from two to six or seven pounds, although there have been fish of this species that tipped the scales at as much as 15 to 20 pounds. Best eating size is around two or three pounds.

The fish gets its name, incidentally, from its large eyes, which after the fish is dead become milky white in color, and glassy.

In lakes it lives in the deep holes or areas where the bottom has been scoured by inflowing streams. In rivers the walleye likes to live in deep holes where there are rock ledges and logs to provide cover. Because it is streamlined, the fish is able to live quite comfortably in swift water, and often is found at the head of a deep riffle or rapids.

When walleyes are hungry they are not particularly difficult to catch. When they are off their feed, however, it is pretty difficult to tease or anger them into striking, as can be done with pike and bass.

The final day of my vacation last September I fished a chilly hour and a half in a driving rain below the Recollect Falls in the French River in Ontario, Canada. We fished—my friend, Gus Hoff; our guide, and I—in about 40 feet of water at a point where a rocky cliff extended from high in the air well down into the water.

In an hour and a half we caught 21 walleyed pike, some of them weighing five pounds, using minnows and small frogs as bait.

The fishing would be good for a few minutes—then the bait would be ignored for a while. Then the fish would perk up again.

"That's the way the walleyes do," our guide explained. "They come in here against the rocks to feed, then they swing out and swim around in the current for a while, then they come back here and feed."

Promptly at the noon hour the walleyes stopped biting. Nothing we did could get the fish to resume the feeding that had given us such fine sport for a while. The guide explained this, too.

"They're all done feeding for a while," he said. "They have had their morning meal. We would be foolish to waste any more time here. The walleyes won't feed again until evening."

We didn't wait to see if he was correct. It was too cold and too wet—and besides we wanted to finish a drive over some 40 miles of dirt road before darkness fell that day.

We'd like to conclude this article with a hint on cooking walleyes. If you know how, and the fish are large enough, cut off fillets of their meat. Or you can skin the fish and remove the heads and tails. Broil the fish in an oven, or cook it in deep fat or butter over a wood fire along your favorite fishing stream.

Cook it until the outer flesh is a golden brown—and you'll have to go a long way for a more delicious piece of meat.

Washington—in '51

(*From page 17*)

bunched or placed in a straight line, but rather they should be located in an inverted "V" formation. For wet *fly* accuracy, on the other hand, five targets are placed in a *straight* line and at definite distances of 35-40-45-50-55 feet from the casting position to the center of the target.

When casting is scheduled *indoors*, accuracy targets are placed at random and unknown distances from the caster, just as for the same event outdoors. Since space indoors is often limited, however, targets must fre quently be located closer to the caste than when the sport is conducted i the spaciousness of the out-of-doors.

Whether indoors or outdoors, in dr fly accuracy false casting is permitted but in wet fly accuracy, no false cast i allowed.

And if you fear that *scoring* you casts might baffle you, don't let it.

"It's really simple when you get th drift," said a beginner recently.

For instance, if the fly or plug *hit* the target when you cast, you scor for yourself a *zero* on that cast. Tha is, *nothing* is *subtracted* from you possible ten. If the plug or fly falls *no more than one foot away* from th target, your score on that target is *one* That is, one point is deducted from possible ten on that target. When th fly or plug falls *between one and tw feet* away from the target, give your self a *two*—i.e., two points are sub tracted from a possible ten on tha target. If your fly or plug falls *be tween two and three feet* away fron the target, your score is *three* on tha target, which means that three point are subtracted from a possible ten o that cast. And so on—*up to ten fee away*. But here you stop. For, if you fly or plug lands *ten feet or more* awa from the target, you score yoursel *ten* on that target. You see, each o the ten casts is worth a total of te points, so that you may not deduc more than ten points for any one o the ten casts—no matter how muc farther than ten feet away from th target your plug or fly should fal Then, when you've completed your te casts, just add the points that you'v jotted down and subtract the total fron 100. That's your score. Get the scor ing "drift"?

It is not the intention here to go int further detail on rules. Complete rule for casting, as for any other sport, fil a booklet. Rather, it is the hope of th writer that the "sketchy" informatio of the preceding few paragraphs ma be sufficient to encourage additiona plain, ordinary fishermen and angler ettes to try their hand at the closel related sport of tournament casting For, each year, as we encourage eac other, the casting group's *growing*. An this year, as our fishermen-caster make their way toward . . .

Washington . . . in '51 . . .

they'll tell you, if you ask, that th tournament caster is daily more an more cognizant of the irrefutable fac that his fishing helps his casting; whil logically, the related sport of castin has proved to be of immeasurabl value to the fisherman, as he, too, at tempts to place his fly, bait, spoon, plu or bug where wants to place it whe he's just fishin' for his favorite fish o his favorite lake or stream.

Stream Notes

In the Bag? ?

tuff and things come out of bags, buckets, kets, barrels or boxes but Warden Lester den wanted no parts of the thing or ngs in one bag he searched. He and trict Game Protector Dan Russ were cking cars on Lincoln Road one day en they accosted a driver who had a bag g on the floor in the back seat. "The ver said I might check the contents of bag but to be very careful. The bag ked mighty suspicious and could have n full of fish. I looked into the bag and e the guy with the box and the "THING," napped that bag shut plenty quick! Inad of fish . . . the bag contained six tlesnakes!" Warden Ogden recommends e in opening anything these days.

Strange Interlude

Warden Ralph Singer tells this story about trange evening's performance last Novem- . . . "I was called by District Game tector Lettie whose car was not available, investigate a deer hit by a car near Greely. r intentions were to dress the deer and urn home. Arriving at the scene of the ident, we found, not a dead nor mangled er, but a lively white tail with no broken es as far as we could determine.

We loaded the deer in the back seat of the . The deer hopped on the seat and laid re all the way home without a move. minded us of a cat or dog.

Half way home on Route 6 we spotted a rked car and a light along a creek which ked mighty suspicious. Thinking we had violator we sneaked the car up to the ne which was over a steep bank. We w a man, but so far as we could see, he s no violator in our book. He was milkg a cow at a spot a mile away from any ildings and it was almost 9 p. m. We ratched our head in wonder, completed r trip home.

UTBOARD MOTOR TESTED AS UMP TO FIGHT FOREST FIRES

An outboard motor which may be used as pump to fight forest fires is now being udied by the Canadian Forest Protection vision, Ontario Department of Lands and rest. The motor, product of a Scotsman's genuity, will drive a small boat at about e miles an hour or will pump water rough 150 feet of garden hose. While it not intended for heavy duty, Department ficials are giving serious consideration to adaptions, pointing out that a steady but all stream of water in the early moments a forest fire may do more good than a zen large streams an hour later.

Change-over from motor to pump is simple, e operator simply loosening one clamp hich removes the propellor and shaft and placing it with the pump unit. The single linder motor burns about one quart of soline per hour.

Know Your Friend . . . The Warden

GEORGE H. JAMES
Cumberland County

Oldest warden, in years of service with the Fish Commission, is George James who makes his home in Carlisle, Pa., is married and has one son. He became a warden on May 1, 1924, serving as a conservation officer for nearly 27 years. His friends say he can walk both banks of the Yellow Breeches with his eyes shut from source to mouth without getting a wet foot.

JOHN A. SCHADT
Wayne County

Vieing with George James for years of service is John Schadt who makes his home at Lake Ariel, Pa. He is married, has a son and a daughter and became a warden on May 1, 1925. Wise in the ways of conservation, he has devoted all but 26 years of his life to the job of serving the public, aiding the sportsmen of his district.

Don't Overlook the Panfish

(*From page* 3)

be hitting and it's warm enough to sit still in a boat. I tied up lots of Royal Coachman, McGinties, Black Gnats, Brown Bi-visibles and White Millers for these panfish just as I tied up certain flies for trout.

So try fishing for these little fish once in awhile. Use your trout rod your dry fly line, a 7½ feet leader and some Nos. 10, 12 and 14 flies. Cast these along stumps, lily pads and weeds and be on guard then for that 'kissing' noise as a panfish sucks in the lure. If none strike at it after a few seconds, just twitch it or pull it slightly so that it ripples the surface. Almost that instant you'll see a small splash and feel the power the sunfish has when he turns sideways to you. Every day for panfish is a field day!

There is always the chance too, of hitting a day when the ants are flying, or the millers are out, or a hatch of Mayflies and those will really be field days! Like that August 24th, the ant day that I happened to hit, it was the time I caught so many fish and had such an enjoyable outing that I can never stop talking about it. And that is indeed rare on a trout stream today with the gigantic crowds that visit them.

So pick up your trout tackle, use it for panfish too. It's a toss up determining which fish give you the most fun!

THE APRIL ANGLER—

Will include such trout season action stories as:

THE KID'S FIRST TROUT
by Jack Anderson
TROUT DOUBLE CROSS
by Dick Fortney
TROUT SEASON
by A. G. Shimmel
TROUT FISHING IN APRIL
by Don Shiner

Plus a cover to cover load of features and articles mighty easy on the eyes.

EXCERPTS FROM MINUTES — MEETING OF — PENNA. FISH COMMISSION

Held January 15, 1951

RULES AND REGULATIONS—COMMERCIAL FISHING OUT OF PORT OF ERIE

The rules and regulations governing commercial fishing out of the Port of Erie will remain the same as in 1950, with the following exceptions:

1. In the measuring of gill nets, a solid steel scale, approved by the National Bureau of Standards shall be used. The size of the rule to be used in measuring small mesh nets shall be three (3) inch. The size of the rules to be used in measuring large mesh nets shall be four and three-fourths (4¾) inch. (All netting mesh is to be measured to scale.)

2. The closed season will be from December 20, 1951 to March 1, 1952. This is ten days later than in previous years and has been set up in this way in order to comply with the closed season of the adjoining states.

Nursery Waters

Northampton County—The Commission set up the nursery ponds under the control of the Hellertown Sportsmen's Association as nursery waters for a period of one year.

Berks County—The Commission set up the nursery ponds of the Daniel Boone Rod and Gun Club located on Dr. Clouser's Farm, Olney, Penna., as nursery waters for a period of one year.

Trolling on the Youghiogheny Reservoir

The Commission authorized that for the 1951 season, trolling from motor boats would be permitted on the Youghiogheny Reservoir which is located in Somerset County.

Little Lehigh River

Honorable H. Albert Lehrman, Deputy Attorney General, sat in with the Commission on the question of securing a lease on the Little Lehigh River which flows through the Park area at Allentown. At as early a date as possible, he will negotiate appropriate lease with the City officials and at that time the Commission will take over that section of the stream.

Resolutions on Fish Approved at the October Meeting of the Pennsylvania Federation of Sportsmen's Clubs

The Commission acted upon the resolutions affecting fish and fishing which were passed at the October meeting of the Pennsylvania Federation of Sportsmen's Clubs and the action has been sent to S. Dale Furst and Dr. C. A. Mortimer of the Federation and report will be made at their February meeting.

Proof in the Pleasure

(*From page* 5)

streams here in northwestern Pennsylvania.

We had scarcely gotten settled when an astounding change began taking place in the weather. A smart wind began coming in off the lake, and in a matter of minutes the temperature dropped at least forty degrees. The change was so sudden as to cause the exceedingly warm sands of the huge bar marking the mouth of the stream, to steam copiously. By noon the sun had disappeared and with it all but the hardiest fishermen.

We hung tenaciously on for another hour before pulling up stakes for a more protected spot two or three miles up stream. It was a fine pool just below a highway bridge and a railroad trestle.

By the time we got set it was snowing so violently as to completely blot out the opposite bank, the snow falling intermittently until we quit at around four o'clock, needless to add, with nary a fish. Once again our results were not at all in keeping with the glowing reports that we had heard.

Exactly a week after our Elk Creek fiasco we heard rumors about our own Neshannock Creek here in Lawrence County. However, it was not the rumors that convinced me, it was a glance out of the window. The snow that had fallen that morning was completely melted. Furthermore, the sun was warm enough to suffuse the tips of the willow branches with a tinge of yellow.

So, gathering up my tackle and a supply of worms which I keep in an unused cement lily pond, I made for a favorite spot on Neshannock Creek. It is a place that I often visit to observe any winter birds that may be about; its cheerful, open aspect and adequate protection making it extremely attractive to the feathered visitors.

The pool is surrounded by a fairly open mixed forest, the occasional hemlocks lending a touch of lively green to the stark nakedness of their deciduous fellows. At the head of the pool a patriarchal maple leans far out over the water and makes a convenient place from which to fish. I usually set the rod, supporting it with strategically placed nails, adjust the reel in free-spooling position and then resort to the shelter of a big rock on the bank. When accompanied by a companion or two we are content to sit by a fire, discuss whatever fancy dictates and watch our tackle.

However, there are times when one prefers doing a solo and thereby experience the pleasures of a rapidly d cling art. So, on that fine, late wint day I sallied forth alone, hoping f the companionship that is usually mi when I visit the Leaning Maple pool

In spite of the brilliant sunshine t March air packed a sting, so aft gathering a quantity of wood I built good fire in the customary spot. The after finding a comfortable seat lighted my pipe and leaned ba against a prostrate tree trunk.

Shortly I spied the rod going throu gyrations that usually herald a hook fish. The smart resistance of the ca tive identified it as something oth than a sucker. Instead of the stubbo tugs employed by the latter, the tacti I now observed consisted of a series frantic jerks. Accordingly, I was surprised when I pulled a silvery fa fish from the cold water. Fair gan and sweet eating, but like the sucke the fallfish is full of bones. Howeve most of the latter can be made pra tically innocuous by frying the fish a crisp brown.

In a few minutes the rod arch again, this time going steadily dow ward until its tip nearly touched t surface. I watched fascinated. Su denly, it straightened out as the fi felt the sting of the hook. By the tim I had the rod in my hands the fish w securely hooked and already goi places. But, after a couple of short b powerful runs it gave up and w pulled from its element. It was a ni white sucker weighing around pound; cold, firm and meaty.

For more than an hour after landi the first sucker they continued biti regularly, the long intervals betwe fish permitting plenty of time to lo about. During one of these intervals, spied a familiar summer bird, a co mon kingfisher, going about the bus ness of picking up a meal. During t course of the day I saw two more them, apparently summer residents farther north sojourning in what them was a southern clime. Kin fishers are frequently observed a winter long on open streams in th section.

The day passed altogether pleasant and leisurely, the activities of the fi being attuned to the mood of the fis erman. Indeed, the outdoors and a of its denizens seemed to be taking a vantage of the brief respite from wi ter's cold. Several bunches of cro flapped slowly overhead, passing on the maple sprouts on the hillside wit out emitting so much as a sing raucous caw. And even more remar able were the bluejays, for the sever that I saw went about their busine without their usual vociferousness.

If you lack enthusiasm and appeti for summer-caught suckers, then,

(*Turn to page* 23)

— TACKLE TIPS —

DON'T NEGLECT THE CREEL

With *Don Shiner*

It is doubtful whether any piece of ıckle anglers own is more neglected ıan the willow creel. On a fishing out- ıg it doubles for a tackle box, lunch ıil, bait-can carrier, or a container ır carrying fish. Yet, after a fishing ip, this handy creel, packsac of many ses, is tossed in some nearby closet or ırner and there forgotten until the orning of the next outing. It is rarely eaned or washed. Slowly the process deterioration sets in, rotting the wil- w fibers, the leather straps and caus- ıg the sides and bottom to give way. becomes so foul and rancid with fish dors that it wouldn't take a beagle a inute to dig it out of any room in the ɔuse.

Since this creel is so handy for carry- g the lunch, the lures and baits, spare ıckle and a hundred and one other ems as well as transporting the fish, should be kept sanitary. Periodic- ly it should be scrubbed thoroughly ı hot soapy water. The dirt, fish slime ıd scales should be removed. A good iff brush is handy for getting in be- veen the fibers.

Once it has been cleaned, it should e hung to dry in some ventilated ɔom, or better still, outside in the air ıd sunshine. After it is dry it will be ıirly clean and practically free of fish dors. It can be stored in a closet next the living room and your wife's can- sta friends will never suspect that ıis house is the home of a fisherman!

Creels should be checked frequently ɔr signs of needed repairs. A creel ıat is painted at least once at the be- inning or end of each fishing season ill keep in dandy condition and will st many seasons longer than it would ithout such care. After it has been ashed and dried, it is a good time to ve the willow fibers a coating of varn- h or waterproof shellac. This will keep ıe creel clean, cause it to keep the sh better, preventing them from spoil- ıg as rapidly or becoming contami- ated with the foul odor of a mistreated eel.

It requires repairs now and then. he hinges on the lid may break from ɔntinuous usuage. If they are broken r it appears they may give way, lace ıe lid to the basket with old nylon ne or copper wire. Nylon line or eavy leader material is suggested be- ıuse each is practically impervious to ater and will not deteriorate or rot.

Fish slime, dirt and constant damp- ess cause the willow fibers in the bottom of the creel to rot and break loose. Check this part of the basket to determine its condition. If it is damaged or has weak places, lace nylon line or wire through the bottom and sides, reinforce it in this way. A hole in the side of the basket can be repaired in the same manner. Better check the small rectangular opening or window in the lid in which the fish are shoved through. If it has any broken fibers or has enlarged in size, weave this partly shut as it will prevent a trout or bass from slipping out and flopping back into the creek.

Perhaps your willow creel is reinforced with leather at the corners and around the lip of the lid. Give this leather a washing with saddle soap then polish it with regular shoe polish. The leather will keep soft and pliable and will not dry out or crack.

If part of this leather on the lid is marked off into a ruler, better check this measuring device Leather stretches when wet and shrinks when dry, so don't take a chance with the leather ruler.

A shrunken leather ruler is no excuse to a warden if he finds your fish in the creel do not measure up to legal size. To be on the safe side, fasten a ruler made of metal or wood to the lid of the creel. Many anglers indicate a six, nine and twelve-inch mark on their rods either by drawing these lines on with ink and varnishing over them, or indicating them by silk wrappings. This is a helpful aid in measuring fish and does away with the inaccurate leather ruler.

Canvas creels should have this same care. They should be frequently washed with soap and water and treated with canvas water proofing material. This will keep them soft, sweet and clean. Any seams that are torn can be sewed or laced shut. If this tackle checkup for willow and canvas creels is done frequently it will keep these packsacs ready for the many roles they play while carried along the stream.

TOP TO BOTTOM →

Wash the creel frequently in hot soapy water.

After the creel has thoroughly dried, give it a coat of varnish or water proof shellac.

In case the hinges on the lid are weak and show signs of soon giving away, reinforce them by wrapping nylon line or leader material or wire around the lid and the back of the basket.

Don't rely on a leather ruler. Instead, wire or bolt a ruler made of metal or wood to the lid so that you can measure the fish accurately.

Our Anglerettes — FOR AND ABOUT MILADY ANGLER

By ELLEN A. DEITRICH

A Red-and-White Streamer—and Beginner's Luck

Hannah turned off the ignition switch, stumbled out the door of the car and ran across a field toward the edge of the stream, where she had left Betty less than twenty minutes before. As she returned, she saw Betty jumping up and down, excitedly waving her arms and shouting to her, "I had it! I had it!"

"Had what?" breathlessly queried Hannah, for she was now within hearing distance of her friend's voice.

"Why, beginner's luck, of course! Remember all of you said I'd have it. And you hadn't been away from here more than five minutes when it hit."

"Did you land it?"

"Did I?" As she spoke, Betty moved aside a small pile of moistened grass at her feet; whereupon, her friend viewed in astonishment what she unhesitatingly acknowledged to be one of the largest rainbows she had seen in all her many years of fishing.

"What bait were you using? That worm you had on your hook when I left?" was the next almost breathless question.

"No, just as you walked away I decided to try once more this peculior looking affair," responded the other, holding up a red-and-white streamer fly on a number ten hook.

"Yes," Hannah commented, affectionately patting the creel in which she had already placed several nice ones. "I've often had success with that type of fly. You observed I was using that same kind when my leader broke and one finny creature got away from me in this same pool scarcely an hour ago. Now tell me, what did you do to hook the whopper and how were you able to land him without a landing net? You know I offered to leave my net with you," she teased.

"Well, I was kinda tired," Betty admitted. "I sat down beside that large rock over there and I held my rod so that the lure bobbed up and down in the swift, whitish-looking water below, just as I watched you doing at times this morning. Suddenly, a jerking of the line almost made me drop everything! Fortunately, however, I tightened my grip on the rod handle, instead; and quite quickly I raised my right arm so that I held the rod straight up in the air. Then, forgetting all the remainder of the technique you had shown me, I simply jumped up from my sitting position and ran up the bank, dragging this beautiful, shiny fish after me."

Hannah, who had fairly been holding her breath 'til this moment, now inhaled deeply. 'Phew! You were awfully lucky to have been able to 'horse him in' in that manner. Big fellows like that very seldom fail to get away from even an expert angler or anglerette who may occasionally and inadvertently be caught short without a landing net.

"Don't worry," Betty noddingly admitted. "I've already promised myself that I'll buy one, especially now that I know how to hook into something to land with it. But during those first four hours this morning—when I believed I was doing everything you showed me and yet I didn't even have a single strike—well, I had made up my mind that I definitely had no need for any additional fishing paraphernalia. But, will you believe that I, too, almost lost this fish? He brok my leader, just as that other one did your but, fortunately, just as I pulled him awa from the edge of the stream."

"I'll bet Ralph will be even more prou of you than I am right now," glowingl commented her friend and tutor.

"Oh, I almost forgot. Did you find ou husbands?"

"Easily. They are not far away. The should be coming around yonder bend an time now. Both had some nice trout in thei creels, but none like yours. And they bot asked whether you had yet had the be ginner's luck we were kidding you abou I could only answer 'No,' of course. Bu wait 'til they see this! Yipe!"

Betty thoughtfully reflected, "This is th first occasion on which I've seen trout jus as they've been pulled out of the wate Are they always so much more beautiful- so much more colorful—when they ar caught?"

"Indeed, yes. Even when wet grass c some other moisture-supplying agent is im mediately placed in the creel with them, the still slowly lose their color. By the tim the average housewife sees them, as the are brought home for the refrigerator an the frying pan, they've lost most of thei bright hues. You've doubtless noticed the are then dark and dull, by comparison."

"Hannah, I'm going to buy my very ow creel, too, for our very next fishing tri But for today, would you mind placing m big fish in your creel with yours—unles you catch your limit, of course?"

"To be sure I will," promptly agreed th other, taking the prize and holding it up fo further inspection and admiration. . . . "Bu look here!" she gleefully exclaimed. "Thi is the very same rainbow that got awa from me scarcely an hour ago! Here's m red-and-white streamer fly way down it throat!"

"So it is!" cried lucky Betty, completel amazed.

The veteran anglerette went on to ad "It's mighty unusual for a trout to be foole twice in such a short period of time by th very same kind of lure. Especially a trou that has lived long enough to have reache the size of this one."

"Well," mused the beginner, "Would yo say, perhaps, that this is one more experienc to prove what I've often heard Ralph claim- that fish and fishermen are crazy people?"

"Yes, I'd say so. And I'd further say tha you've had a huge and undisputable slice c that beginner's luck today, your very firs day on a trout stream! My, I'm now *doubl* proud of you. Already I can hear Ralp bragging to his friends about this. And her come our husbands 'round yon bend. No for our lunch and that inimitable taste c fresh fish fried in butter *out-of-doors*!"

Angler-Anglerette scenes such as pictured here are yearly becoming more numerous along Pennsylvania streams.

Some Cats I Have Known

(*From page* 6)

w mornings later as an aftermath to ır previous discussion, and according his prophecy that we wouldn't get ıy because of the wrong lunar period, e were meeting with absolutely no ccess. This particular event took ace at one of the Bessemer, Pa., kes, when I decided to switch from ıe lake to another. But there was ›thing in the offing in the other ther. After waiting patiently with no ccess, I put a fly on my trout rod ıd began having fun with the inımerable panfish which were playing schools along the shore. Fascinated the way in which they followed en pecked at my fly, I almost overoked my other line. Amazingly I ›ticed that it began heading out for e deep, so I dropped my fly rod and gerly took hold of the other pole. I d line for quite a while in that gerly tense manner that a crab fishman does always knowing that the h on the other end must be of fair ze, and then set the brake.

The line stiffened, the pole bent, and e line kept going out. I had to relase pressure on my reel and let the h continue on its course. But slowly turned it and the tightening line ised the fish almost to the top of the ater. Gazing out, I looked into the ear depths and thought I saw the evil himself. A monster cat with ad-pencil-like whiskers was slowly urning the water. The water boiled, it the cat turned, then headed on a ght arch of the lake. When my line as nearly exhausted I eventually rned him and he made a complete ft arch swinging wide. I managed mehow always to change his course om right to left, then right again, and r about a half hour played him by tting him ride back and forth in wide cs in front of me. Finally he tired, ıd I was ready for the landing. Now problem arose. He was too big for e landing net. And I was fishing off a dge which led into about two feet of ater.

A fisherman near me got into the ater with me and almost over our ottops the two of us finally managed hoist the cat over the ledge. It was ke throwing an Easter ham up over ur head after lifting it out of the ater.

I quit fishing right then. Headig back for the other lake I apoached my dad from the rear and ked:

"How they bitin'? What'ja git?"

"Nothing," he answered without rning, "And you?"

"Oh, I got one," I casually replied, then slapped the cat which had been weighing me down with a big resounding splash in the water in front of him and adding, "Here's that big one you've been losing."

My dad's eyes popped.

"I tole you I'd get it," I said.

His face alternately turned from disbelief to surprise, and finally to eager grin.

We gauged the fish at anything up to 18 pounds. Returning home we stopped at a grocers and weighed it. It tipped the scales at 13½ pounds, and measured 32 inches in length.

These are some of the cats I have known. They're an engaging fish to angle for. They take the bait well, they fight their typical heady underwater battle, and to the connoisseur of fish, as gourmets go, none tastes sweeter. When it isn't game fishing time, surely there's little pleasure as great as when one loads up with a mess of softshells and heads for the ole catfish hole.

Mak Talks Trout

(*From page* 9)

down by the Willer Hole I was fishin' down an across with a little "Light Tiger" tied on a No. 10 salmon hook. Early morning the big fellers like to get a last bite before they lay up fer the day. Well just about the middle of the hole where the water breaks from the rips and flattens out I see a nice one swirl at my fly as it wiggles past. I waited about a minute and brings it up on the other side. He spun round and I hit him but he didn't fight no ways right for his size. When I net him I see the reason. Some other fisherman had hooked him on a bait and he broke off where the loop on the hook was tied to the leader. My streamer caught in the loop of the hook and by keepin' the line tight hadn't given him the chance to break away. Mind you there was a wraparound sinker on that snelled hook, but that trout was on the feed just the same as if he didn't have a No. 8 hook in his stomach.

"Same thing happened to a feller over on Spruce Branch a couple of years ago. He was fishing a cast of wets early in the morning and as it was late season he was using cobweby leaders. Hooked into something but he claimed the leader knot slipped at the second dropper. That night he came by on his way back up stream. There was a hatch of them little Yellow Dun flies on and the fish was after 'em. He cast a dry over the spot and when a trout bubbled he took up the slack. After quite a scrap he slid the fat brown up the bank and found his leader and two wets he'd lost in the morning. He figgered his dry had caught in one of the wet flies and he'd managed to keep things tight enough to finish the game. Seems like trout aint half as smart as some of those writing fellers try to make out."

Mak turned on his elbow to watch a young oriole not long out of the nest teeter uncertainly as it hunted mayflies on the under side of the foliage above our heads. His downy yellow breast blended well with the green canopy above that provided adequate food for his ravenous appetite.

The sun dipped behind the cliffs opposite and the first long shadow touched the pool. The first ring of a feeding fish marked the beginning of the evening rise. A second and a third ring followed before Mak stirred although I knew his keen eye had not missed a trick.

"Come on feller," said Mak, "When a fish rises three times he means business." A feller that don't take advantage of what chances the Almighty sends his way is either a darned fool or just plain stupid.

I noticed his hand fumbled a bit as he squinted at the eye of the tiny gray fly. After he secured the knot and tested his leader carefully he waded slowly down and across to a casting position. Once, twice the bit of fluff rode over the lie. On the third cast the fly disappeared. Mak grunted and a brown broke water against the light strain of the rod. Other trout ringed the upper pool and by the time I was ready for action, Mak was bringing the first trout of the evening to the bank, carefully foled in his deep net.

Proof in the Pleasure

(*From page* 20)

will be a refreshing revelation to see, feel, and eat one caught in the cold waters of a clean stream in winter. I, for one, frankly admit that a fresh-run sucker is as clean and attractive as some of the more popular game fishes. Indeed, on what basis was the sucker determined an inferior fish, and particularly so when so many people consider it top eating. I daresay that its name has played no small part in placing it low on the list of desirable fishes. And, it may be added that they are not nearly as bony as some fishes that are esteemed as delicacies, the shad for example.

NOTE: Fishing on waters regularly stocked with trout is not permitted between midnight, March 14 and 5:00 A. M., April 15. However, there are many other streams containing the ubiquitous sucker that are open to any one seeking it. See inside back cover for regulations and open waters.

School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

LIFE IN INDOOR WATERS

Everybody, sometime, should have an aquarium so that he can study at close range the underwater world. Pressure, food, and oxygen take on new meanings when one is watching a crawdad or a goldfish in a bowl.

And what is better than one large aquarium is to have a number of smaller jars. Any large mouthed jars, made of clear glass, will do. Keep them where it is cool and where the light is subdued. A large tank with a variety of animals in it is very beautiful, but it doesn't "wear" well. Keep your specimens small and, if they are pugnacious, a single specimen to a jar.

Do have a jar with crawfish, but don't force fish to live with them. They shread the water plants and are apt to run the fish ragged. They'll catch and eat them, too.

You'll have better luck if you get regular aquarium water plants than if you try to use local plants. Native plants are OK in the summer but don't winter well. A snail or two in each jar will help to keep the algae off the sides; if your fish are tiny, any size of snail will do.

If you've never watched a mass of frog eggs or necklaces of toad eggs hatch and develop, that would make a fascinating project. The transformation of a tailed tadpole to a tailless frog has all the ingredients of a miracle.

Spring Peeper Time

Reserve one aquarium for several spring peepers. These tiny frogs relish worms and will repay you with crickety music from a most amazing musical instrument. Be sure and have a raft in the jar; he appreciates a firm footing when making music.

Get Ready for the Birds

Early spring is an excellent time to study birds. Their plumage is new and colorful. They are full of song. It's migration time and you will see species that will be in your vicinity for a short time before moving northward to their nesting range.

You ought to own a pocket guide that will help you identify the birds. There are many sizes and prices . . . vest pocket to overcoat pocket sizes and prices. You really need a pair of opera glasses too. A low-powered pair is best for the beginner. He may become discouraged trying to find a bird through high-powered field glasses. If you are going to buy a pair, get one that is about 6 power with a wide field of vision. Third, you should own a good notebook that is sturdy enough to last for several years. You'll find your notes on migratory dates grow more interesting from year to year.

BIRD HOUSING PROBLEM

When I hung up my birdhouse
  That daddy made for me,
I didn't want a Starling
  Or a Sparrow in it, see?
I didn't want a Catbird,
  (He's definitely a crooner)
But I knew Jenny Wren would be
  A genteel sort of roomer.
But how could I let Jenny know
  She could move in to stay?
And how were all the rest to know
  That they should go away?
At last I hit upon a scheme,
  And anyone may try it;
It really is so good that I
  Don't know how I came by it.
Now Jenny's living in my house;
  The rest all sadly went,
For I had posted up a sign
  That simply said: "FOR WRENT."

C.A.

(Reprinted with permission of PENNSYLVANIA FARMER)

A True-False Test About Fish

(Put a T or F in the blank before the statement)

1.——A fish's nostrils are used for smelling, not for breathing.
2.——A fish has a 2 chambered heart; a frog, 3; a bird, 4.
3.——A fish lack any sign of ears.
4.——The eggs of almost all fish are fertilized externally in the water.
5.——Flying fish glide; they do not fly.
6.——The eel is a true fish.
7.——Eels lay their eggs in salt water; salmon lay eggs in fresh water.
8.——A sea horse is a fish but a star fish isn't.
9.——A fish has no eyelids.
10.——The wall-eyed pike isn't a member of the pike family.

Rooms for Rent

Are the bird houses ready for the new tenants? Have you cleaned out last year's nests? Have you cheeked the roofs? The whole structure may be a bit rickety and need a few nails. I'd forget to paint them. The more weathered they look the more the birds seem to appreciate them. I have a friend who has several houses painted in "glowing" colors, but he never has tenants.

If you haven't a bird house, make one. Perhaps your woodshop instructor will help you. If you need plans, you can find them in any library, or ask your scout leader, or any member of your local Audubon Society.

Fairy Shrimp, Too

In pools formed by melting snow or ice you may find graceful little crustacean known as the fairy shrimp. Bring these in too, and keep in a cool place. You'll be amazed at their artful antics, especially since the little animals are upside down swimmers.

CHUCK, THE WARDEN, SAYS:

Conservation is the wise use of our natural resources. Our natural resources are of two kinds: those like coal and oil are *unrenewable;* those like forests, game animals, and water are *renewable.* When the *unrenewable* resources are gone, they are forever gone. These should be carefully guarded. The *renewable* resources should be used, enjoyed, and improved with future generations in mind. We in America have had a wonderful heritage of resources. We have been wasteful, but we can rebuild the renewable part of this heritage, use it for the benefit of everyone, and pass it on in a better condition than we found it. . . . It's up to *you* to see that this is done.

Answers to True False Test—All the statements are true)

Y SPECIAL AMENDMENT OF THE FISH LAWS PASSED BY 1949 LEGISLATURE AND RESOLUTION OF THE COMMISSION—ALL FISHING IS PROIBITED IN ANY WATERS FROM MARCH 14 TO 5 A. M. APRIL 15, 1951, EXCEPT IN RIVERS, LAKES, OR PONDS NOT STOCKED WITH TROUT

THE FOLLOWING IS A LIST OF WATERS CLASSIFIED AS RIVERS IN PENNSYLVANIA

Name	*Tributary To*	*Basin or Sub-Basin*
*Allegheny River	Ohio River	Ohio
Ashtabula River	Lake Erie	Erie
Beaver River	Ohio River	Main Ohio
Beaver (Little) River	Ohio River	Main Ohio
*Beaver (Little) River, North Fork	Little Beaver River	Main Ohio
Black River	Saucon Creek	Middle Delaware
Casselman River	Youghiogheny River	Monongahela
Cheat River	Monongahela River	Monongahela
Chemung River	NB Susquehanna River	UNB Susquehanna River
Clarion River	Allegheny River	Middle Allegheny
*Clarion River, East Branch	Clarion River	Middle Allegheny
Clarion River, EB Middle Fork	East Branch Clarion	Middle Allegheny
*Clarion River, West Branch	Clarion River	Middle Allegheny
Conemaugh River	Kiskiminitas River	Lower Allegheny
Conemaugh (Little) River	Conemaugh River	Lower Allegheny
*Conemaugh (Little) River, NB	Little Conemaugh River	Lower Allegheny
*Conemaugh River, S. Fork	Little Conemaugh River	Lower Allegheny
Cowanesque River	Tioga River	UNB Susquehanna
Cowanesque River, North Fork	Cowanesque River	UNB Susquehanna
Delaware River	Delaware Bay	Delaware
Delaware River, West Branch	Delaware River	Upper Delaware
Elk River	Chesapeake Bay	Lower Main Susquehanna
*Genesee River	Lake Ontario	Genesee
*Genesee River, Middle Branch	Genesee River	Genesee
*Genesee River, West Branch	Genesee River	Genesee
Juniata River	Susquehanna River	Susquehanna
*Juniata River, Frankstown Branch	Juniata River	Upper Juniata
*Juniata River, Raystown Branch	Juniata River	Upper Juniata
Juniata (Little) River	Frankstown Branch	Upper Juniata
Kiskiminitas River	Allegheny River	Lower Allegheny
Lackawanna River	NB Susquehanna River	LNB Susquehanna
*Lackawanna River, East Branch	Lackawanna River	LNB Susquehanna
*Lackawanna River, West Branch	Lackawanna River	LNB Susquehanna
*Lackawaxen River	Delaware River	Upper Delaware
*Lackawaxen River	Lackawaxen River	Upper Delaware
*Lehigh River	Delaware River	Middle Delaware
Mahoning River	Beaver River	Main Ohio
Monocacy River	Potomac Creek	Potomac
Monongahela River	Ohio River	Monongahela
Ohio River	Mississippi River	Ohio
Potomac River	Chesapeake Bay	Potomac
Schuylkill River	Delaware River	Lower Delaware
Schuylkill River, West Branch	Schuylkill River	Lower Delaware
Schuylkill River, West-West Branch	W. Branch Schuylkill River	Lower Delaware
Schuylkill (Little) River	Schuylkill River	Lower Delaware
Schuylkill (Little) River, East Branch (or Still Creek)	Little Schuylkill River	Lower Delaware
Schuylkill (Little) River, W. Branch	Little Schuylkill River	Lower Delaware
Shenango River	Beaver River	Main Ohio
Shenango (Little) River	Shenango River	Main Ohio
Susquehanna River	Chesapeake Bay	Susquehanna
Susquehanna River, North Branch	Susquehanna River	Susquehanna
Susquehanna River, West Branch	Susquehanna River	Susquehanna
*Tioga River	Chemung River	UNB Susquehanna
Youghiogheny River	Monongahela River	Monongahela

* See following list for rivers and sections in which fishing is prohibited.

IE FOLLOWING IS A LIST OF RIVERS, OR SECTIONS OF RIVERS, LAKES, AND PONDS WHICH ARE STOCKED WITH TAKABLE TROUT BY THE COMMISSION, AND IN WHICH FISHING IS PROHIBITED FROM MIDNIGHT MARCH 14 UNTIL 5 A. M. APRIL 15, 1951

RIVERS

egheny River, Potter County—Stocked from the vicinity of Coudersport upstream to the vicinity of Seven Bridges, about 8 miles.

rth Fork of Little Beaver River, Beaver County—Stocked from the vicinity of Darlington upstream to the Beaver-Lawrence County line, a distance of approximately 5 miles.

st Branch of Clarion River, Elk County—Stocked from the vicinity of Instanter to Glen Hazel, 7 miles.

est Branch of Clarion River, Elk County—Stocked from a point known as Rolfe, just north of Johnsonburg, upstream to vicinity of Wilcox, 5 miles.

rth Branch of Little Conemaugh River, Cambria County—Stocked from above the Wilmore Dam upstream, 4 miles.

uth Branch of Conemaugh River, Cambria County—Stocked from where the road crosses the stream above Lloydell upstream to Summit Hill Water Company Dam, 3 miles.

nesee River, Potter County—Stocked from the New York State line to West Bingham, 5 miles.

ddle Branch of Genesee River, Potter County—Stocked from the vicinity of Harmonstown upstream to George Williams farm, 6 miles.

est Branch of Genesee River, Potter County—Stocked from the vicinity of Ellisburg to Genesee, 5 miles.

ankstown Branch of Juniata River, Blair County—Stocked from the mouth of Pine Run downstream, to McDonald Run, 9 miles.

ystown Branch of Juniata River, Bedford County—Stocked from the vicinity of Bedford upstream to Somerset County line near New Baltimore, 18 miles.

st Branch of Lackawanna River, Susquehanna County—Stocked from the vicinity of Herrick Centre upstream to near the source, 5 miles.

est Branch of Lackawanna River, Susquehanna County—Stocked from the mouth (near Uniondale) upstream to Burnwood, 5 miles.

ckawaxen River, Pike County—Stocked from the vicinity of Lackawaxen upstream to Pike-Wayne County line, 12 miles.

ckawaxen River, Wayne County—Stocked from the vicinity of Promption upstream to the source at Beaver Meadow Reservoir, 22 miles.

high River—Stocked from about two miles below White Haven upstream to the source. This would include section bordering on Luzerne and Carbon Counties, Monroe and Luzerne Counties, Lackawanna and Monroe Counties, Wayne and Lackawanna Counties—a total distance of about 30 miles.

Tioga River, Tioga County—Stocked from the bridge above Blossburg upstream to the last bridge in this County on this stream, 9½ miles.

LAKES AND PONDS

Adams County—Hartman Dam on Marsh Creek—3 acres in Franklin Township. Chambersburg Water Company Reservoir on Birch Run—22 acres in Mountain Township.

Bedford County—Thomas W. Koon Lake on Evitts Creek—268 acres in Cumberland Valley Township. Beaver Run Rod and Gun Club Dam on Beaverdam Creek—1 acre in Kimmall Township. Replogle Dam on Yellow Creek—6½ acres in Woodbury Township.

Centre County—Metzgers Dam on Spruce Creek—1½ acres in Ferguson Township. Roosevelt Dam on Stoney Creek—3 acres in Potter Township. Penns Cave Dam on Penns Creek—4½ acres in Potter Township. Poe Valley Dam on Big Poe Creek—27 acres in Penn Township. Green Valley Dam on Little Fishing Creek—2 acres in Walker Township.

Clinton County—Woolrich Water Company Dam on Chatham Run—5 acres in Pine Creek Township.

Cumberland County—Wade Dam on Hogestown Run—3 acres in Silver Springs Township. Boiling Springs Lake on Yellow Breeches Creek—9 acres in South Middleton Township. C.C.C. Dam on Hairy Spring Hollow Run—3 acres in Southampton Township.

Erie County—Lake Pleasant on Branch of Alder Run—60 acres in Southwestern Venango Township.

Forest County—Ward Ranch Pond on Coon Creek—10 acres in Kingsley Creek Township.

Huntingdon County—Greenwood Furnace Dam on E. Br. of Standing Stone Creek—3-34/100 acres in Jackson Township. Whipple Dam on Laurel Run—15 acres in Jackson Township. Barree Dam on Barree or McClain Run—2 acres in Potter Township.

Jefferson County—Manner Run Dam on Manner Run—1 acre in Polk Township.

McKean County—Kushequa Pond on Kinzua Creek—13 acres in Hamilin Township.

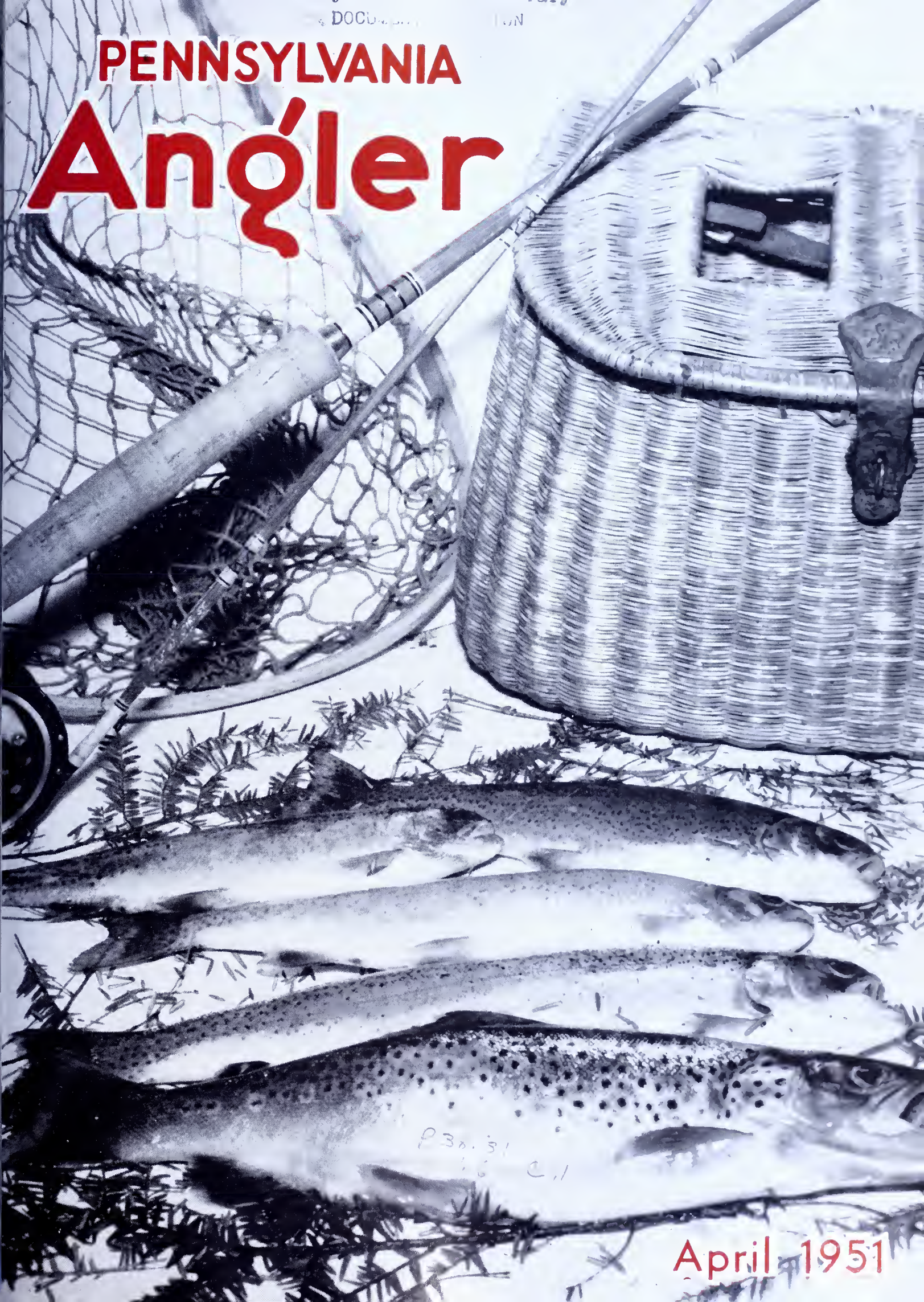
Monroe County—Snowhill Lake on Mud Run—3 acres in Price Township.

Montgomery County—Upper Perkiomen Valley Park Lake on Deep Creek—38 acres in Upper Frederick Township.

Snyder County—Meisers Mill Dam on West Branch of Mahantango Creek—2 acres in West Perry Township.

Union County—Halfway Dam on Rapid Run—6 acres in Hartle Township.

PENNSYLVANIA Angler



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HON. JOHN S. FINE, Governor

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The Angler

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—The April 15th Story—
Photo by Don Shiner

EDITORIAL BY A TROUT

(The one on the right)

As told to an ANGLER Correspondent

You might think it odd that a trout writes the Editorial for the April issue. But, is it so extraordinary, considering the important part we play in the lives of almost a million Pennsylvania anglers? Certainly none can deny we have become the symbol of the Chapter Genesis in outdoor life each year.

Men have toiled over microscope and test tube in the finest and most modern research laboratories to be found anywhere in the world so that we may have health, vigor and the glorious colorings to match our native ancestors. Men sweat, machines grind over endless miles distributing us throughout the length and breadth of this Commonwealth, yes . . . to streams in your own locality.

Folks might wonder whether the expense, time and effort is worthwhile, simply look upon us as martyrs on the road to the frying pan. But if some folks ruthlessly think of us only as meat on the table, it is we trout who are indeed sorry for them, missing as they do the modern angling philosophy of fishing for fun and relaxation.

We are the first to admit our worthlessness commercially in terms of folding money. But our destiny is not fulfilled by comfortably fitting into the pit of your stomach. Our true worth can be measured only by the times we, in our sometimes reluctant manner, helped iron out the kinks and wrinkles of your mind, caused your lungs to absorb the clean, fresh air of Spring, gave your body the will to recover lost vigor, instilled in your soul the peace you've been yearning for these many Winter months.

No . . . we do not make differences in race, creed or color. Nor does it matter if we fall victims to the worm or the fly. Your angling pleasure, your outdoor recreation is all that matters to us. May you have your fair share of these in the 1951 season.

COLD weather on the opening day of trout season can be usually expected. But, not so cold as to freeze great stretches of slack water and sheath tender spring growths in an icy armour.

First day fishermen moved aimlessly about or huddled disconsolately around fires, waiting and hoping for a break in the weather. I had left the cozy warmth of the parked car and started hopefully up stream, but soon had to give it up. Returning to the car I started the heater and soon lolled luxuriously in the rear seat.

George, my companion, who had proceeded me upstream by some twenty minutes, returned at noon thoroughly chilled and fishless.

"Let's go home," I urged.

"No, let's wait," he returned. "I have a hunch that things will open up."

I was about to say something in return when my eye caught a song sparrow ascending an icy branch. When he had gained the top he attempted a song. I changed my mind. "Okay, we'll wait," I quietly assented. Then, for the first time I noticed a lighter area in the leaden clouds as though the sun was trying to burn through.

By two o'clock things looked brighter. Even the air seemed warmer, but our thermometer showed a rise of but four degrees. Ten minutes later while poking about the stream banks we noticed a small cloud of mosquito-like insects dancing crazily about in a little protected hollow.

"That's the green light," said George as he nodded toward the insects. "Let's head for the car and get our outfits."

"You mean that those bugs—?" I trailed off helplessly, mystified by the significance of my companion's observation.

George knew what I meant. "Exactly," came the emphatic reply. "'When the gnats dance the trout snatch.' That's an old saying right from the Scottish highlands."

"It doesn't even rhyme," I remonstrated.

"Aint suposed to," corrected George as he bent a minute, spidery gnat to his leader.

I carefully scrutinized the bit of steel and hackle. "Do you think the fish will be able to see that in this light?"

George was supremely confident. "They'll not only see it, but take it."

And he was right, too, for on his first cast there in a bit of ice-free water, he nailed a twelve-inch brownie.

George is like that. His guesses are so consistently correct as to be uncanny. What is more, when he directed me to "lay that monstrosity of yours over there under that overhanging hemlock," I did, and hooked a fish on a medium hair streamer of our own concoction which we call the Hot Dog.

"It's beyond me," I breathed as George went about the business of landing another fish.

Twenty minutes later when we left the spot we had four fish that had been caught within an interval of five minutes.

"Notice that the insects have disappeared," my companion pointed out when we passed the spot where we had first seen them.

The following Friday evening the phone rang. "What's up?" I demanded upon recognizing George's voice.

"At exactly 2:20 o'clock in the morning, that's tomorrow, you know, a full moon comes into being," he elaborately explained and then added, "and we should be on the stream at around daybreak or better still, a little before." He continued rapidly. "All but two of my calendars are in complete agreement, even to the minute."

He paused and I managed to ask if he meant that the calendars were in agreement as to the time the moon made its debut.

"No," he snapped impatiently. "They agree on the time that the fish will start biting."

I didn't know that fishing calendars indicated the exact minute when action could be expected. So, after expressing my doubts I asked him to divulge the time.

"At 5:15," he came back unhesitatingly.

"Then, at what time do you want

AT THE SIGN OF TH

The trout lily blooms when the trout bite best.

Just what's wrong with carrying a rabbit's foot along the creek if you figure it brin luck? If a talisman, like the trout lily determines your angling destinies, sear them out and salaam!

By N. R. CASILLO

→ A brace of browns on a bed of trout lilies.

leave here?"

"I'll be on deck at 3:20." Even in s phone conversations George exudes e utmost confidence in his piscatorial eductions.

Enroute to our favorite stream, the aldwell, up in Warren county, I asked eorge to explain if he could, the apparent relationship between the time moon rise and that of when the fish ould begin biting.

"Well, four of my calendars predict at the fish will begin taking hold actly two hours and fifty-three mines after moon rise. Specifically, at's at 5:13. It may be coincidental, t that's at sun rise."

My curiosity nearly impelled me to k if he actually believed in what I d always considered guesses. However, my companion's luck was beginng to influence me. Perhaps, the

ROUT LILY

aps who concocted those calendar d almanac predictions weren't as ckeyed as I formerly thought. I sely suppressed my curiosity.

Between 5:13 and 5:20 we found the h to be positively ravenous. We ught three twelve-inchers in the ven minutes. They were active for me little while longer, but their idness was considerably blunted.

With these two prefatory examples, e can readily understand why some hr men go completely overboard in serving certain signs and portents when it comes to angling for their favorite fish. Regardless of geographic, biologic and other differences of their favorite waters, they usually swear by some manifestations of natural or imaginative phenomena.

Perhaps, some particularly fortunate individual made a killing when the hooded skunk cabbage crunched underfoot. Another accomplished as much when the shadbush was in bloom. Still others will stoutly maintain that the water must contain a trace of silt. "Just enough to rile 'er up a bit," they will carefully explain.

One could continue almost indefinitely with the endless procession of

(*Turn to page* 20)

↑ A quiet stretch on Caldwell Creek in Warren County.

← This tributary is alive with small brookies.

THE KID'S FIRST TROUT

Remember how the world looked when you were a kid? Forget your blase, sophisticated viewpoint for a while as you read this story of a boy, a trout in Spring.

By JACK ANDERSON

As a TROUT fisherman, you needn't be told that since late February's ice break-up, fishing crony Dave Ellis and I had been scanning Pocono Creek, watching its roily waters rise and fall, peeking from behind stumps to catch a glimpse of restless olive shapes, standing by its brushy banks, talking of past seasons as we'd talked on many other pre-season days. But this year, there was one slight difference.

Dave Ellis, with his kindly eyes and streak of premature grey hair, had decided that son Bill, aged nine, was ready to learn trout fishing. Bill stood with us, listening and not talking, big brown eyes pools of interest, watching his father's mannerisms and imitating them, as hero-worshipping kids will do.

April fifteenth morning three of us, not two, hopped into a dawn better suited for deer hunting than trout fishing and hurried to the creek.

You heard Pocono Creek churning long before you saw it, for there had been the usual spring rains. The creek was the color of dirty ice. On any day other than opening day, Dave and I would have stayed between the warm cotton sheet-blankets. Neither of us object to bait fishermen, but we fish nymphs and flies exclusively. Obviously, today was a challenge to our kind.

Walking through the thickets toward the creek, Dave gave son Bill much last minute advice.

"We're starting out by fishing what you call those little brown bugs, weighted down with two shot. Those bugs are really nymphs, and as a beginner you better fish 'em like I told you. Flip them across stream and let them float down, doing your level best to keep the line tight."

"Shall I make 'em wiggle, pop?" Bill wanted to know, pulling at a loose boot-strap as we walked.

"Maybe you better try that—but sometimes these brownies want them served up with just the current carrying them."

I thought: And sometimes, the brownies don't want nymphs, served up with side order of fricasseed chicken. But I didn't want to put a damper on Bill's spirits (which naturally were high as heaven) so I said nothing.

"We'll be trying the same thing, and if we don't soon get a strike we'll change. But keep fishing that way until we tell you."

Now quite naturally, Dave Ellis and I had a few new tricks we'd been told were good. We had a black-and-white, skunk pattern streamer which sometimes works marvels in Pocono creeks during Spring thaw. We had the silver doctor, wet, which we'd never tried on this stream. Then we'd tied up a few breadbaskets (similar to the breadcrust with heavier body), which was recommended heartily by a Pocono Creek veteran.

So we got to the creek, where we met one fisherman, a fat fellow in hunting cap and ragged hunting coat. He was breaking ice from the tip of his steel, telescope rod, and his face was blue and the expression pained as he turned toward us.

"How's luck?" asked Dave.

"Got two, but *censored censored* but it's cold."

"Got two, eh?" Dave glanced at the steel rod. "Worms?"

"Sure. They won't take anything but worms or minnows when the crick's up this high."

Now as any kid would be, Bill was too excited to listen to our talk. He had his line in the water and you saw by his expression he was expecting action very soon. Watching his long remarkably smooth casts, I thought: He'll make a fisherman. Of course, Bill had fished before, for pickerel and panfish, but he'd always used worms.

"Gonna start him out right on trout," Dave had said. "I wasted ten years trout fishing with worms. You don't learn nothing. It's flies for my Bill."

As I started fishing, blowing into my hands after every cast and hunching as a dog hunches in great cold, I thought that Dave was wrong, a fellow learns much, worm-fishing for trout. You learn that trout love the protection of rocks and brush. You learn that sometimes, when creeks are high, trout feed in deep midstream. You learn that food must be presented naturally if you are to catch many trout. You learn that in the riffles, you are likely to take brookies and rainbows, and in the still pools, big brownies often feed.

But enough thinking, I figured, here's good old trout fishing again! Watch for that first sudden strike.

I fished a large dark-brown nymph, about the same type which takes Snow Hill Lake's rainbows so consistently in early season. Carefully I played the edges of the riffles, the shadowed reaches under overhanging brush, the deep pools. Getting no strikes, I added more buckshot. When the line still drifted limp, I tried upstream fishing, which is too slow and too tedious for my liking but which sometimes takes trout. An hour later, without a trout, I was warming my hands over a brush fire which Dave had built.

"Where's Bill?" I asked.

"Fishing down below," Dave said, flipping his hands to get back circulation.

"He's a sticker."

"Darn if he isn't. But that kid's like I was when I was his age. I never minded cold."

"Only you were a common worm fisherman."

Dave laughed. "You know, if I had a worm now—"

"I know, I thought the same thing. Be temped as the deuce to use it."

"We ain't doing no such thing." Dave said. "We ain't spoiling Bill."

So we warmed our hands and then, while there was still feeling in our fingers, Dave changed to the skunk pattern streamer and I decided to try a royal coachman, wet.

Looking at the red-and-white-and-green beauty of the royal coachman, I thought: You are my most faithful fly. Here in the Poconos, you will take some trout any given day. I've used you successfully when the creek was hugging the tops of the banks, and I've taken trout with you when the taller creek stones were dry. You resemble nothing I've ever seen on the stream, but perhaps trout see your beauty as I do. Come on, my favorite little baby, get hot today.

But just to keep the record straight, the royal coachman didn't have what it

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← Bill (The Kid) was a fisherman from the word, "GO!"

Each April brings fresh adventure astream. No matter what the weather, foul or fair, anglers everywhere have a happy outlook! It has its humorous side as well.

IN PENNSYLVANIA, the arrival of April brings happiness to fishermen for it is the month that brings trout season. It is the first month when the really great numbers of anglers go astream in quest of a weighty creel. It is the month when the tricks of catching trout last summer are put to work again. Yet, many times these methods of catching trout are unsuccessful, for the early spring trout is as different from its mid-summer counterpart as if it was a fish of a different species. A brook trout, a brown or a rainbow in a stream where the temperature may be 40 degrees above may look the same as it will in a month from now, when the water begins to warm, but the similarity doesn't go further.

In the early spring, the cold icy waters, much of it melted mountain snow, affect trout in much the same manner as the wintertide affects the fishermen. They find their fingers and toes numb readily, they find a wave of shivers spreading over them, they find it's more pleasant to remain by a roaring fire. Trout are the same. When the water is very cold, they lose their urge to feed and tend to live upon their stored up energy accumulated last autumn. They lie close to the bottom in the deep pools and there remain, cold and numb. Therefore the heaviness of an April creel will depend largely on how far advanced the temperature of the water has become.

If April has weather not very far above freezing, the creels will be slim. But if the streams have warmed from the Spring rays of sun, then trout will be on the feed and on the lookout for food. They will snatch a nymph that exposes itself alongside a rock, they will dig for caddis or stick worms among the gravel, they will take a wet fly as it drifts over the riffles and will take a worm that floats near the bottom.

The thermometer can be a scientific instrument for the April fisherman. With it he can check the warmth of the water, find if it has climbed upward during the past few weeks. If it hugs the 40 mark, he can count on fishing the deep pools where the cu rents swell lifelessly. He can rig u his bait rod and sink a worm close t the bottom of the pool so that it rol slowly over the pebbles.

The trout have little strength t buck the heavy current in a cold Apri but when it begins to warm, they be come swift and eager and laugh at th swiftest of flows.

If the stream has warmed, they ca check for May flies. The Quill Gordo is the first to appear and with it come dry fly time. It means that bait of a sorts can be undug or untouched a the time is at hand to open the fly bo The Quill Gordon, Hendrickson, Ca hill and Coachman can all take thei turn tied to a leader. They can b made to drift with the currents, swi behind rocks, in the eddies and tumbl over the riffles. A trout will be on th lookout for them. It may rise an take just as it would a natural fly tha may float by.

Yet, to many fishermen, bein astream in April and the first part o May holds something more than th

TROUT FISHING IN APRIL

April 15th in Pennsylvania might be rightly called the "Angler's Christmas" because it's the beginning of a holiday season of pleasure and fun astream. It's the day when fishermen leave the warmth of their winter snuggeries to invade the outdoors.

By DON SHINER

e catch of trout. It is the time when e streams begin to peek through eir wintry covering of snow and ice. is the time when the streams begin sing their merry tune as they push st natural barriers. It is the time year that fishermen notice the green tches of new grass and the first oup of robins that pluck worms from e soft earth. The waterfowl are rking their way north again too. ey are on the move now, the ducks d geese, the hawks and the song-ds. They are a friendly crew, these ds that watch a fisherman from the eamside in April.

To many, each new April is a re-creeled this time of year. Wishful anglers frequently have their rods suddenly become a spring as something like the very core of steel, as colorful as a rainbow, as energetic as the riffles themselves leaps and tugs at their line. Then as they reach out a net and lift the prize from the cold water, they realize once again the charm, the pleasure, and the thrill that all Aprils surely bring. For April trout fishing is the beginning of adventures astream. It is the month that stirs the hearts of young and old alike. It is a month of friendliness, a month filled with new life and a month that means "fishing time" has begun!

Sometimes Old Man Winter has another ace up his sleeve and April 15th can be as cold as blue blazes, witness this angler tasting an icicle on an opening day.

As the angler reaches out his net, lifts the prize from cold water he realizes the charm and pleasure that every April brings. This is an action scene on Fishing Creek, near Benton, Columbia County, Pa.

nder of all the Aprils that have ne before it. The winter snow and give way to the warm sun and the w blossoms and fragrant odors recall mories of yesteryear.

It may bring back visions of a nice el of trout arranged on a branch m a hemlock tree. It may bring ck visions of a ducking in the cold ril water as the practice of walking right over the moss covered slippery nes has been dormant due to winter. e skill of bucking a heavy current ile wading astream must be acired anew each April.

The casting technique has dimmed d rusted a bit too. A long cast netimes ends up across the stream gled about an overhanging limb, or is often snarled high in a tree on a kcast. It is then a choice of climbing the tree to save it or breaking the der and letting the fly remain to ing with each russle of wind.

But, fortunately, many trout are

X X X X X X

TROUT DOUBLE CROSS

X X X X X X

If you're like an old dog that can't learn new tricks you'd better quit trout fishing. There's always something new in the books and the following yarn sets forth a perfect example.

By DICK FORTNEY

IF SOMEBODY had happened along that hot summer afternoon he might have thought that he had stumbled upon a pair of lunatics.

There was Ernie knee deep in the tail of a big, deep pool at the foot of a waterfall in a mountain stream in Central Pennsylvania.

Thirty feet up in the air, I lay on my stomach on a flat rock and peered down at the surface of the pool.

Ernie would make a long cast with his powerful rod—directing a fly toward the head of the pool, where the water tumbling over the falls churned up a band of foamy white water.

Tensely he would peer—not at the water and his fly, but at me.

"Strike!" I would yell, and Ernie would lift the tip of his rod smartly.

Certainly that was no orthodox way to fish for trout—two men against the fish in the pool, one man handling the rod and lures and the other calling signals.

But the team-work (or double cross) produced results in what before had seemed to be an utterly lifeless pool. And, what is more important, it provided us with a couple of answers to the vexing question of how to catch trout in the tag end of the season, when the water is low and crystal clear and the trout timid and extremely selective.

Our teaming up against the trout in that pool was, as a matter of fact, quite accidental.

We had fished half a mile of the stream that afternoon, and not once had we found it necessary to unsnap a landing net. We had fished slowly and carefully up the mountain ravine through which the stream flowed, searching every pool and riffle for trout.

Our flagging hopes revived when we reached the big pool at the foot of the waterfall. Here we expected that the depth of the water and the churning current might help us.

But with each cast of the fly that sinking feeling of frustration deepened. By the time every inch of the pool had been fished without a rise from even a little trout, we decided to work around the falls, fish a short stretch of water just above, and then call it a day unless our fortunes took a change for the better.

To pass the pool and falls it was necessary to wade ashore and take to a steep path that twisted upward alo the side of the gorge to the top of t falls about 30 feet above me. I start on the climb first, while Ernie mained behind for a few more cas

It was good that he did!

Near the top of the trail I sat do for a moment on a flat rock and look down through the foliage to the p below—and what I saw almost s me toppling off the rock in surprise.

Ernie still was casting over the po and cruising around in the water so distance in front of him were at le a dozen large trout. They were r just cruising, though. They were

"That trout was that long! If it hadn't been for that old tree stump I'd have him the creel right now!" (It's an old April story.)

The lesson learned at the big pool produced trout for us in the pockets and riffles of the stream above the pool as we ended our afternoon of angling.

The water was low and crystal clear and although we carefully fished half a mile of stream, we did not once unsnap a landing net.

vely feeding—but how they were feding!

One big fellow directly below me as typical of all the rest. As I atched, this trout gracefully held its sition in the current not more than foot beneath the surface, headed upream toward the falls. Then the out quietly and deliberately moved ward in the water, brushed its nose ainst the surface, and dropped back its place in the current.

Even with the advantage of my ight above the water I could detect surface disturbance. Certainly my mpanion, in his position in the pool, uld not see the rise.

At my call, Ernie joined me on the t rock above the pool, and together e studied the fish below us. Every out that we could see was poised st below the surface of the water d was rising regularly—yet not once uld we see a splash or swirl as the h fed.

We could observe, also, that the ater flowing down through the pool llowed three lines of current, and l the trout were in these lines. One as quite close to the foot of the cliff which we were perched. Another as directly down the center of the ol, and the third flowed about ten et from the far side of the pool.

It was Ernie who suggested that we am up against those trout.

He returned to the pool and began sting over the lines of current, mov- g from one to another as he fished. e fully expected—now that we knew ere were feeding trout in the pool d knew where they were located— at catching them would be easy. But r lesson had not been wholly arned.

One of the biggest fish in the pool y in the path of the first fly that my iend drifted down the pool. As the y fly reached a spot about a foot om where the trout lay in the cur- nt, the fish rose slowly in the water, d my nerves tightened.

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This is the way the big pool looked to me as I sat on a rock and watched a dozen big trout lying just beneath the surface of the water feeding regularly.

TROUT SEASON

By ALBERT G. SHIMMEL

To extract the last drop of pleasure and satisfaction from an opening day requires an optimistic outlook. Trout angling has the method, the madness and the yearning to keep you young.

ANY project that engages the attention of the individual regardless of its purpose passes through three stages. They may be more or less distinct or kaleidoscoped together until they are indistinguishable. I refer to anticipation, preparation and realization. An angler addicted to the pursuit of the fishes with speckled skins that rose to that first artificial Red Hackle in the Macedonian river seldom finds respite from his mania. The first two stages cover and color all his between season activities, while the third runs its high tide during open season.

In like manner anglers have been conveniently classified as realists, optimists, pessimists. The first two classes contain the majority of true anglers with the last having an unqualified minority.

I would be classified in the optimist group in preparation for each new season as I generally have a well balanced kit of artificials although my field notes show not more than one opener in four has the weather been favorable for their use. That I am not alone in this class is shown by an occasional inquiry as to just what artificial is most productive for early season and just how they are used.

Having seen opening days range in temperatures from a plus twenty to seventy degrees and the weather from snow through sleet and rain to sunshine. I remember one opening day when I was a lad of ten or twelve years when six inches of snow covered the ground and the enthusiasm and optimism of youth held me at the sport until on returning home my frost nipped fingers caused me to shed tears.

After the first enthusiasm of the new season has spent itself I turn realist as far as trout angling is concerned, accepting gratefully what the Red Gods see fit to send my way asking nothing except the contentment that is found in the poetry of a good rod and bright feathers beside clear water.

There are certain flies and lures that must be in my kit during the first two weeks of season. I would no more think of going without them than I would of leaving my favorite rod at home. Because they are old friends I must have a generous supply not only for myself but for others who go abroad and risk pneumonia on opening days.

The Rock Worm is a pattern of Caddis fly larva without the case. It is tied of lemon wool carried well down over the bend of the hook. The ribbing is a black horse hair and the hackle either brown partridge or guinea fowl. This might be another version of the old yellow-bodied hackles. When thoroughly wet and fished dead drift fashion it is an effective nymph pattern during the greater part of the open season. It is particularly effective under sod banks and in the slow reaches of the stream where vegetable growth is found in abundance. It is also very effective in the rocky turbulent waters of the freestone streams. This pattern is not durable due to the wool body and soft hackle, but they may be constructed at the rate of one every three or four minutes of material that is low in cost. There can be no excuse for being caught short of this pattern.

My second standby pattern for early season is also one that stands up well throughout the season provided the size is reduced after mid-season. This pattern for want of a better name, is called Yellow Bellied Nymph or just yellow belly. The body is of gray or white fur spun on tying silk and saturated in lacquer. It is then covered with yellow or orange silk and ribbed with a peacock quill. Tails are three strands from the tail of a cock pheasant and the hackle of brown patridge. The back is then lacquered brown and allowed to dry. As a morning pattern on streams having the large Stone flies this one is hard to beat. Fished deep and slow at the end of a long leader it interests many of the larger specimens of trout that otherwise would take only bait or streamers. Another situation in which it proves its worth is on falling and clearing water. Drifted along a few inches under the surface it has proved the undoing of more than one foxy brown. In sizes as small as No. 18 it is sometimes a producer at the beginning and end of the evening hatch. These nymphs are rather tedious to make but once constructe they are almost indestructible.

The third nymph is merely a gra body of muskrat fur tied extra heavy Tail of wood-duck and small brow hackle. A gray or black wing cas over the thorax completes the pattern For variation a ribbing of fine gold o silver twist is added. One of m friends named it the "Jinkin'-Bug" be cause as he expresses it he makes then when he's "Just jinking around." Th rougher and more amateurish the fl is tied the more effective it becomes We have caught trout, bass, and al manner of pan fish on this fly. Wit a small spinner ahead of it will brin fall fish from the deepest rips of th river and in such smashing strike that you will enjoy them to the full.

As to wet flies I can get along unti mid-May with four patterns. Th March Brown, Blue Dun, Lead Winge Coachman and Black Gnat or Blac Quill. These are all standard pattern except the March Brown which ha been previously described in th ANGLER. The Blue Duns range fron light to dark depending on the tyer. prefer them a mouse gray throughou in size 14 and 16. The Black Gnat o Black Quill are best in small sizes 16-1 and 20's. When these small black flie are needed nothing will take thei place.

Much early season angling is don with streamers. Each man has his ow ideas as to patterns, yet no one can g wrong on such standbys as the Edisoı Tigers in light and dark. The Ghos series in Black, Gray and Lady, Th Marabou's in Black, White and Yellow The main thing to keep in mind whe buying streamer is to keep them smal 8's, 10's and 12's with painted eye added if possible.

A spinner or two and a couple o midget plugs might be added to you outfit although they are so awkwar for me to handle I have about given u their use with a fly rod.

For the exceptional season tha opens with high temperatures and lo water, three dry fly patterns are neces sary. The Quill Gordon, Red Quil and Hendrickson will care for these early hatches.

These are the patterns I tuck awa in my fishing vest in anticipation an preparation for open season.

When April 15 rolls around grin reality takes possession. What does i mean to be abroad on opening day Ask any angler who's worn gear an battered hat shows years of experience He'll probably smile at you and hedg about expressing just what it does mean.

There's the smell of damp earth mingled with the faint trace of arbutus blooms. The sound of running wate

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BENNER SPRING PROFILE

These photos bring into sharp focus important potentialities of the new site recently acquired by the Fish Commission for the expansion of research and management program. The spring, in Centre County, has a flow of over 8,000 gallons per minute, located on the old Benner Estate, a famous landmark. It's another milestone in the aggressive program and planning of the Commission under its Executive Director, Charles A. French.

UPPER LEFT—Benner Spring. Men are standing at the three main sources.

UPPER RIGHT—Determining the volume of the combined flow of Benner Spring.

LOWER LEFT—Benner Spring (as shown in foreground) emptying into Spring Creek. The spring contributes about 8,000 gallons of water per minute.

LOWER RIGHT—General view of a portion of Spring Creek, recently acquired by the Fish Commission.

CENTER—Part of the 13-acre tract along Spring Creek which will be used for research development.

aurel Run Rod and Gun Club Inc., ummerhill, Pa.

Here's a communication from Club Secre- ry Franklin H. Penrod which reads as fol- ws:

On Monday evening, January the 22nd, he Laurel Run Rod & Gun Club, Inc., of ummerhill held their first Official Board eeting of the year.

They are opening their drive by donation nd solicitations to raise funds to build a ublic Fish Pond between Wilmore and ummerhill, near Route 53. This tract con- sts of 15 acres that the Club is purchasing om M. V. Beyer farms and have under ase 28 acres from the Wilmore Coal Co., Windber also rightaways and use of the ess run for future improvements. When uilt would be the largest pond in this dis- ict.

The Greater Beneficial Union of Summer- ll made the initial donation of one hun- ed dollars and more as the project im- oves. Members and officials are to canvas d solicit donations from clubs, businesses d individuals. All collections to go into separate Fish Pond Fund of the club and ed only for construction, expenses and aintenance of Fish Ponds. If over sub- ribed, the Fund can help out on improving ms in this area for Public Fishing.

The Laurel Run Rod & Gun Club, Inc., was corporated August 15, 1949 and recorded Ebensburg. They have directors in Sum- erhill, Wilmore, Johnstown, Nantyglo, uth Fork and Ehrenfeld. Members in mbria and Somerset Counties.

Any donations can be turned over to any the recently installed officers. Regis rift, president of Summerhill, Eldon Holes, e president of South Fork, Herbert Boden- atz, treasurer of Summerhill, Franklin H. nrod, secretary of Summerhill, and Francis denschatz, chief instructor of Summerhill. membership drive is on and dues are used purchase the 15 acres.

ellertown Sportsmen's Association

The following officers were elected for 51 at a recent meeting: President, Free- an Smith; Vice President, Herbert Achey; cretary, Ken Nauman; Treasurer, Grant ffert; Trustees, H. G. C. Hoffert, George arson and Leslie Ruth.

lmesburg Fish and Game Assoc. Inc., Phila, Pa.

Here are the recently elected officers of the ub to serve for 1951:

President, Mack Ambrozy; vice president, l Davis; 2nd vice president, Frank Krebs; asurer, Ed Vache; secretary, Charles ley; archery, Edward DeRienze, Charles nsil; casting, Art Clark, Tom Watson; admark, Art Carver; entertainment and reshment, Sam Boswell, Jim MacMillan, aig Meade; fresh water fishing, Frank ebs, Russ Eden; game, Russ Cornelius; use, Tony Appel; Fritz Geiger; legal, Elmer cker, Milt MacBain; membership, Herb mplin, John Schwitters; Pistol, Russ ggey, Al Kummick; property custodians, c Meeham, Sam Magowan; publicity, El- od Kline; rifle, George Dewees; salt water hing, Milt MacBain; special prize, John tzger; Trap, Howard George, Bill Brown- v, Sr.; grounds, Open for the first member t would like to take this job on his hands.

CLUB NEWS

The Daniel Boone Rod and Gun Club

Officers elected to serve the club during 1951 are as follows:

President, Harrison L. S. Deeter, 1055 N. 5th St., Reading.

Vice President, W. Delbert Newman, 19 Butter Lane, Mt. Penn.

Recording Secretary, Arthur Burkert, 1506 Linden St., Reading.

Financial Secretary, Leon Leinbach, Esterly, Pa.

Treasurer, Martin Seidel, Esterly, Pa.

Trustee, George B. Griesemer, 434 S. 18th St., Reading.

President Deeter appointed the following committees:

Fish and Stream Improvement: Del Newman, Willis Snyder, James Moser, William Alt, Harry Heath, John Stoudt and Dr. Carl Clouser.

Game: Paul Folk, Leroy Kohl, Milton Breitegam, Raymond Gerth, Harry Rapp, William Mosser and Rodney Burkert.

Pollution: Leroy Kohl, Ralph Ruppert and Willis Snyder.

Entertainment: Wayne Bortz, Dana Davis and Al Binkley.

Pheasant Rearing: Martin Seidel, Clayton Hassler, Brooke Ritter, Howard Angstadt, Stephen Ruth, John Christian and Robert Kulp.

Grievance: Att. Russell Weidner, Rep. Leroy Weidner, Lawrence Gibbon, Paul Leinbach and Park Boone.

Delinquent: Leon Leinbach.

Allegheny County League of Sportsmen

F. X. McCulloch and A. G. Anderson send out an interesting notice by post card that attracts attention. It says in addition to time and place of meeting, March 8, "Once a year the news boys of a certain London District are taken by train for an outing up the River Thames where they can bathe to their heart's content. Last year, while one of the boys was getting into the water, his friend stared at him and observed . . . 'Say, Bill—ain't you dirty?' 'Yes,' replied Bill," I missed the train last year. CLEAN STREAMS mean your health. We criticise the Chinese for using sewage wastes on the land, while we dump it in our rivers, then drink it. No wonder we have "Hadacol." Humanity is still in the wash. Of the past 4,000 years of history only 268 were free from war. Let's urge public officials to continue Pennsylvania's public policy of clean waters.

The Sayre Sportsmen's Club

About 750 persons attended the 14th Annual Banquet of the club held recently in the Sayre High School. From glancing at the menu for the dinner, nobody should have gone away hungry.

One Club President's Message

L. F. Manning, President of the Delaware County Field & Stream Association, gave the following message to his fellow members in the *Club News*, official publication of the club:

"Hi Fellas

You are told in this issue how many fish, pheasants, and bunnies we have liberated for the pleasure of those that dip lines or tote a gun.

Boys we MUST keep the farmer as a friend, else all our stocking efforts are in vain. We have lost some acreage due to vandalism and it's up to each of our members to keep an eye open for stream bank diggers, fence breakers, trigger happiness and the discarding of litter. Don't be backward about telling anyone you see committing any of these unsportsman-like acts in damn plain words to cut it out.

No Trespassing means you. United effort can stop it. It's your sport. See that the other chap is a sportsman."

Respect Property—Or Fish From Aquariums

The Club is having 300 cards printed, urging fishermen to respect the rights of property owners. These cards will be placed along Pocopson Creek, Broad Run, Little Valley and other streams, prior to the opening of trout season.

"You never miss the water 'till the well runs dry." You never miss the trout water until its signed off. We sincerely believe that the members of West Chester Fish & Game are good sportsmen, who respect other men's property as they would their own; that it is the "outsiders" who break the fences, litter the meadows, argue with the farmer's family, and generally behave like hoodlums on a holiday.

Let's teach by good example; let's be on the lookout for the property destroyers and put the finger on them, either in these columns or through the Fish and Game Commission agencies, or other channels of the law. Let's be grateful to those who cooperate with us and thank them.

Otherwise, around these parts the hoodlums will force us to do our fresh water fishing out of aquariums.—West Chester Fish & Game Assoc. Inc. *Sporting News.*

Ted Yuscung Sportsmen's Assoc. Inc. Phila., Pa.

Here is a list of committee chairmen selected by Field Captain Walter Johnson, and the President John Noble to serve for the coming year:

Federation—Walter Johnston, Charles Kinsey with Russell Law and Herb Hunsworth to serve as alternates
Trap—Ed Walter
Salt Water—George Dellaport, Tony English
Fresh Water—Carl Huckins, Gerald Dennis
Swap and Sale—Herb Hunsworth
Ways and Means—Charles Price
Photography—Donald Karcher
Crow Derby—Gene Silas
Casting—El. Schorle, Sr.
Rifle—Claude Carey, Bill Stickel
Pistol—Stan Regula
Membership—John Street
Publicity—Frank Wenger
Entertainment—Erle Ehly

Perhaps this is the time to say something concerning the *American Turf Register and Sporting Magazine.* It was founded in September, 1829, by John S. Skinner, who sold it to Mr. Pegram of Petersburg, Va., in August, 1835. Unlike *The Spirit of the Times,* it was issued as a monthly magazine, each number being embellished with sporting engravings executed by the foremost artists of the day. Mr. Pegram's tenure as owner proved very short; and he then sold it to Gideon B. Smith, from whom Porter acquired it. The magazine was in rather a bad way, judging from the fact that no illustrations were included in Volume 9, however, when Porter took it over this deficiency was supplied. In the introduction to Volume 10 Porter mentions that:

"It may be proper to state, that the present number is a double one, or contains twice the number of pages which the magazine will usually contain. The purpose is to make up fully for the numbers thus far omitted since December last;—a second double number will be issued on the first of May, and a third in the course of the year, which will supply, the late interruption occasioned by the change in ownership; and care will be taken that henceforth the work be issued regularly on the first of each month. One fine steel engraving will illustrate each number; and if the patronage be at all commensurate, a still larger number than twelve will be published in the course of the year . . . Such other improvements in the magazine as a little more experience may suggest, will be carried into early effect; and the subscribers need not fear, from the connection of the editor with *The Spirit of the Times,* that, in any contingency, will they be doomed to read a mere re-publication of the contents of that journal."

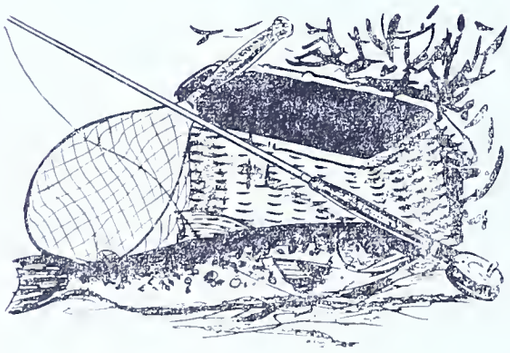
Under Porter's management both magazines flourished. W. H. Herbert (Frank Forester) made his initial bow to the sporting fraternity in the form of a serial that started in the May-June, 1839, number of *The American Turf Register and Sporting Magazine* entitled *A Week in the Woodlands; or Scenes in the Road, in the Field, and Round the Fire.* This was later incorporated in book form under the title *The Warwick Woodlands,* an unusually rare item that brought $1,100 at the Maclay sale in 1945.

Not only did Herbert become a regular contributor but Porter also gathered around him various other shining lights in the sporting world, such as T. B. Thorpe, W. P. Hawes and many others. This group of celebrities had a rendezvous at Frank's Monteverde's in Barclay Street around the corner from the *Spirit of the Times* office, and Brinley's description of this furnishes entertaining reading.

We are indebted today for the records Porter left behind in these old sporting magazines, for nowhere else can a true picture be obtained of the sports as practiced in those early days.

He continued to edit The *American Turf Register* until 1844 when, through non-support, the magazine was discontinued. Porter died July 19, 1858, and in 1859 T. B. Thorpe became publisher and editor of *The Spirit.* The following year it died a natural death and was then taken over by George Wilkes, who continued it under the name of *Wilke's Spirit of the Times.*

AMERICAN FISHING BOOKS



By CHARLES M. WETZEL

Part 4

More about early fishing periodicals which will be extremely interesting to the modern angler. Described in this issue are times in which classification of American fresh-water fishes was in a most confused and chaotic state.

Brinley's *Life of William T. Porter* is perhaps the only authentic record left of this colorful sporting figure familiarly known as "York's tall son;" the work is enhanced by a portrait of Porter executed by the celebrated Henry Inman.

In 1862, Robert B. Roosevelt (Barnwell), uncle of President Theodore Roosevelt, wrote his first fishing book, *Game Fishes of the Northern States of America and British Provinces.* This book was more or less a landmark for it was the first work in this country that treated on the subject of entomology insofar as it concerned the fly fisher. As viewed today this part of the work is rather sketchy, presenting more or less a life history of insects that frequent the water, but at that time it marked the beginning of a vast unopened field of knowledge, something necessary to all fly fishers. In *Game Fishes of the Northern States* the influence of English angling writers such as Ronalds, Adamson, Alexander and others is still clearly discernible, but Roosevelt must be given credit for a number of innovations strictly American. He was the first native son to describe the intricacies of salmon fishing, the salmon rivers of Canada, the appearance and habits of new game fish, and the new oil-coated silk fly line.

It must be remembered that up to this time the classification of American fresh-water fishes was in a most confused and chaotic state. Experts had not yet determined satisfactorily whether brook trout and smolt were the same, or that brook trout were not in fact young salmon. The life history of the salmon, too, was practically unknown; and the majority of Americans had a hazy conception of how to angle for this noble game fish until Roosevelt's work set them on the right path. Englishmen, of course, particularly army officers like Tolfrey who were stationed in Canada, had been quietly pursuing the sport for a number of years but it was not common knowledge in the States until Roosevelt disseminated the information. On angling equipment for the fly fisher "Barnwell" comments as follows:

"Dr. Bethune, page 97 in *The Complete Angler,* says the rod should not exceed a pound in weight. Indeed it should not, and if it does, it exemplifies the old maxim, so far as to have a foot at one end. If we could fish by steam a rod exceeding a pound and measuring over fourteen feet might answer well, but in these benighted days, while wrists are made of bone, muscles cartilages and the like, the lighter the better. A rod, and if perfection is absolutely indispensable, a cedar rod of eleven or twelve feet, weighing nine or ten ounces, will catch trout. Cedar rods can only be obtained in America and then only on compulsion, but this wood makes the most elastic rods in the world. They spring instantly to every motion of the hand and never warp. They are delicate; the wood is like woman, cross grained, but invaluble if carefully treated. The reel should be a simple click, never a multiplier, but large barreled, and fastened to the butt with a leather strap. The line, silk covered with a preparation of oil, tapered if possible, at each end

(*Turn to page* 18)

Pennsylvania's *Thundering* Waters

Since time immortal, man has searched for thundering waters the world over. There's something awesome and fascinating about a waterfall, some gentle as lambs, others roaring like lions. Photograph above is of the largest falls on the Big Wapwallopen Creek, Luzerne County, stocked for 13 miles with rainbow and brown trout. Photo on left is of lesser waterfall on same stream. Surrounding scenery is magnificent! Truly, Pennsylvania has everything!

Photos by Don Shiner

— TACKLE TIPS —

"YOUR FEET GO FISHING WITH YOU"

By Don Shiner

Fishermen long experienced in stream-lore know the importance of proper foot care and pay as much attention to it as do movie stars of their figures. They know that tight boots, a cramped toe or blistered heel can spoil many days along the stream. They also know that proper care for boots pays off in the end. They last many years longer.

These facts occurred to me some years ago when fishing a trout stream well up in the mountains of picturesque Pennsylvania. A hike of nearly five miles over an old logging road was necessary to reach this particular brook. The boots I was wearing were a size too small and the pair of heavy woolen socks I wore cramped the toes all the more. By the time I reached the stream my feet were a pair of tired and aching 'dogs' and they hurt severely with each additional step. The trout received my flies perfectly and were jumping constantly, but my thoughts weren't on the fishing. I kept thinking and feeling the ache in my toes. How I managed the long hike back to camp is a mystery, but I well remember my feet were sore and ached for more than a week.

One should keep in mind that the feet are the only means of locomotion about the camp and stream. It pays to take care of them! The boots should be roomy and should fit the feet well. Then, don't venture astream without wearing a pair of good 100% wool socks, the best that can be had. The soft wool yarn will keep the feet warm, will absorb the perspiration and cushion the feet every step along the way.

Few are the sportsmen who haven't experienced cold feet when wading chilly waters. Woolen socks will do much to keep them warm. A pair of felt or sheep skin innersoles added in the boots will prevent the cold from seeping through the rubber soles and penetrating the toes. One of these fur lined innersoles and a pair or two of wool socks will cushion the feet and make one think he is walking on a pillow stuffed with duck's down. Wool socks will also serve another purpose. They will absorb perspiration and cause the lining of the boots to last longer and to remain 'sweet' even after long hikes in hot weather.

Proper first-aid for the standard rubber boots commonly worn while angling will make them last longer. After each trip astream, cleanse them thoroughly by rubbing a damp cloth over the boots. This will remove most of the slime, dirt and prevent them from discoloring or losing that new look. The foreign material that dries to the boots after wading a stream can soon bleach out the original color and sap the life from the rubber. It takes only a minute or two to clean them and this pays dividends by causing the boots to last many seasons longer.

Check the boots frequently for pin holes and patch them before they are ripped or wear into a large gash. You may as well wade without boots as to wear ones that leak. A wet boot is not only hard to dry but having the lining constantly wet causes it to rot.

The worst enemies of rubber are heat and sunlight. Don't expose the boots to the direct rays of the sun for long periods of time, and when storing them, don't put them in a room where the temperature runs over eighty. A cool dark place will preserve the elasticity of the rubber and will cause the boots to remain soft, pliable and seem to keep that live feeling rubber has when it is new.

When the boots aren't in use, for any length of time, don't roll or fold them. Instead, hang them up so the tops are kept straight. This goes for waders too.

Yes, your feet and boots go fishing too, so treat them the same as you would a $75.00 rod. As a matter of fact, a pair of boots that fit the feet will be actually worth many times that amount in comfort! So keep the foot gear in good condition. Check the boots frequently and store them in the manner suggested above. Proper care will make them last many years longer and a particular pair of boots that fit your feet well are to be as prized as a fine collection of dry flies.

TOP TO BOTTOM

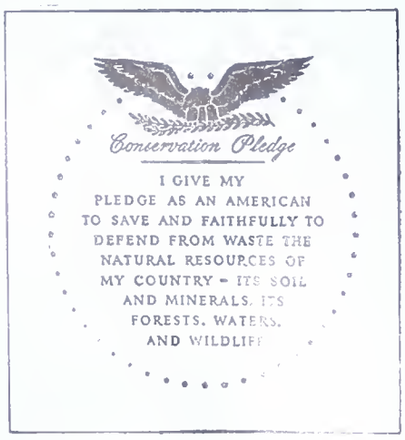
Check boots frequently for pin holes and patch them before they are ripped or wear into a large gash.

When boots aren't in use for a length of time, don't roll or fold them.

A sheep skin innersole added in boots will prevent cold from seeping through.

After each trip astream, cleanse them thoroughly by rubbing a damp cloth over the boots.

Hang boots up so tops are kept straight. This goes for waders, too.



Stream Notes

Toboggans on the Tough Tobyhanna

Ten years ago, when I was commissioned a Fish Warden for Monroe County, the hardest stream to stock in the County was Tobyhanna Creek. It still is today.

Tobyhanna Creek is stocked with trout from Rt. 611, at Tobyhanna, Pa., for 10 miles across the vast Tobyhanna Military Reservation, now controlled by the Penna. Game Commission and known as State Game Lands No. 127. The stream flows near a road at only four places in the whole ten miles, and being new on the job that first year, all the trout were stocked in those four places.

Since that time, mainly through the efforts of Mr. Richard L. Merriman, 101 Greenridge St., Scranton, we have worked to stock this stream in the way it should be done.

Mr. Merriman, better known as Dick, has not missed helping to stock the stream once in the ten years that I have known him. All during the war when gasoline was short and manpower was shorter, Dick Merriman could always be counted on to see that a good job was done on the "Old Toby."

There is usually no less than a foot of snow on the ground, and there has been as much as 24 inches, when spring stocking time comes around. Dick brings toboggans and large galvanized cans to get the trout safely to their new homes. Last year there was 18 inches of soft snow on the ground, but Dick was on hand to meet the truck with his odd equipment, ready to do a good job as usual.

This year due to ill health our good friend "Dick Merriman," will be unable to help. Dick's presence will be sorely missed. Even after a mile pull on the toboggan to the stream and back he could always be counted on to have a smile on his face and be first in line to pull the next load into the stream.

I take my hat off to Richard Merriman, one of the finest Sportsmen I have had the pleasure to come in contact with, and to work with him in the job we are all trying to do.

—*Warden Floyd Bachman*

Here's Dick Merriman (on left), before he retired, with Warden Floyd Bachman.

Trout on the toboggan, believe it or not! Dick Merriman and his crew are compelled to take to dog sleds to stock trout in the tough Tobyhanna Creek, Monroe County.

Know Your Friend . . . The Warden

RUSSELL J. WOMELSDORF

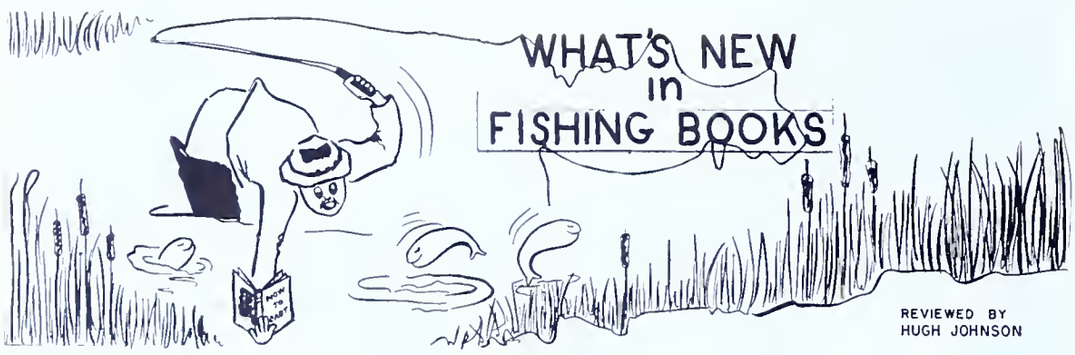
Luzerne County

Here's a well known gentleman who has been with the Commission as a Warden since February 1, 1930. He makes his home in Kingston and is married. Especially interested in the upper Susquehanna and its reaches, Russell also has numberless lakes to cover. It's a wide and varied territory. Much front page angling news of Pennsylvania is made in his area. Twenty-one years is a long time on the job but the boys in his balliwick say Russell wouldn't trade the memories of those years of action for anything in the world.

SAM F. HENDERSON

Westmoreland and Allegheny Counties

With the Pennsylvania Fish Commission as a Warden since March 1, 1931, Sam Henderson has seen quite a bit of water flow over the dams and under the bridges in the counties he serves. He lives in Greensburg with his wife and son. Intensely interested in conservation, Mr. Henderson has become wise from years of service to the public, is one of the many successful, intelligent Wardens who set the standard demanded by the Commission in every county of the Keystone State.



Joe Bates, far wiser than most fishing writers of the day, has specialized in *firsts*, having written two books both of which break new ground in angling literature A few years ago he published the first American book about spinning—*Spinning for American Game Fish*, and it will probably be a good while before any other writer has the temerity to try to beat that excellent work. Now he has just come out with another first, a very complete job called *Streamer Fly Fishing in Fresh and Salt Water* (D. Van Nostrand, Inc., New York—$5.00).

I approached the reading of this book with a certain lack of interest in spite of the author's reputation for creditable writing, simply because I have never been interested in fishing streamers and bucktails. In my more honest moments I have granted that this lack of interest was chiefly due to a lack of knowledge about the subject, and having read Joe Bates' book I am ready to concede that I have been abysmally ignorant of a very decent kind of fishing and that I have missed a lot. It will be very different from here on out because *Streamer Fly Fishing in Fresh and Salt Water* has given me a furious itch to tie up some streamers and bucktails as Joe Bates ties them and to fish them along the lines of his meticulous instructions.

There is a whale of a lot to the subject—as Old Angler says, in the first chapter of the book, to Young Angler who asked "What's back of all this streamer and bucktail business anyway?"—"Son, you have bitten off for yourself a discussion of the first magnitude!" It seems to me that the author has taken in the subject in all its "magnitude" and organized it about as sensibly as one could wish. The book is in two parts. Part 1—The Tactics and Tackle for Fishing with Streamers—breaks down into the following basic discussions: Why Fish Take Streamers, Streamers—Simple and Otherwise, How to Select Streamers (which ones to use under given circumstances), How to Fish Streamers in Fast Water, How to Fish Streamers in Slack Water, Notes on Selecting Tackle, Western Salt Water Streamer Fishing, Eastern Salt Water Streamer Fishing, Southern Salt Water Streamer Fishing, and Notes on Types and Dressings. Part II—The History and Dressing of Famous Patterns—is a fascinating discussion of the origin and lore of 229 famous patterns of bucktails and streamers, including instructions for tying them. This section, about one-third of the book, will particularly appeal, and be of use, to the fly-tier.

Readers will note with interest the author's implied contention that there is a lot of slush and nonsense about some streamer fly talk and beliefs and a lot of fancy foolishness in some of the patterns. He starts by answering the question "Why do fish take streamers?"—(1) They think it is something to eat and strike it because they are hungry, and (2) If they are not hungry, they strike it from curiosity, from anger, or from a spirit of play. If condition (1) is indicated, the angler selects a streamer which imitates baitfish life. If condition (2) is indicated, the field is wide open as to which fly to select. Fanning out from there, the author covers the field and does so with simplicity and directness. The table on Page 76 will undoubtedly excite anglers to differ with it on some points, to add to it, or to substitute one fly for another, but a confirmed streamer fly fishermen who studied the table told me that it was the best list he had ever seen. It lists two dozen streamers and bucktails considered to be in general use throughout the country, and indicates for each streamer listed the type or types of fish (fresh water) which most frequently strike at it.

There is no lack of interesting anecdote, particularly in Part II. Typical is the intriguing story of how, almost overnight, the Mickey Finn bucktail catapulted to national fame from nothing more than a nameless "red-and-yellow bucktail" listing in a William Mills catalog. It happened in 1937 when the issue of *Hunting and Fishing* Magazine, featuring an article by John Alden Knight about the "Mickey Finn" along with a big Weber ad picturing the fly, hit the newsstands during the New York Sportmen's Show in Grand Central Palace. The issue sold out immediately and an estimated 200,000 Mickey Finns were tied at the Show, and for the two months following the Weber Company could hardly keep up with orders for the fly from all over the country. A kind of Mickey Finn panic spread throughout the nation, stemming from one magazine article and one advertisement. What an Article! What an Ad! What a Fly!

D. Van Nostrand Company, the publishers, deserve an orchid for turning out such a smartly designed book—beautiful paper and binding, and a nice job of color reproduction on the plates of streamer flies. All in all, *Streamer Fly Fishing in Fresh and Salt Water* is the best $5.00 buy I've seen in several years.

American Fishing Books

(*From page* 14)

and thirty to forty yards long.

This was the first known instance where fishermen used an all silk, oil-coated line. The line Tolfrey described was not all-silk, but whipcord—presumably linen. No mention can be found of the split bamboo rod so it must be inferred that Phillippi's invention had not yet attained any degree of popularity in the States; if it had, Roosevelt undoubtedly would have owned one for he was considered quite wealthy and a fanatic on modern equipment. Concerning flies, the following excerpt is most interesting for he strongly condemns the hackles and palmers that had served so well the people before him:

"The May and Stone flies are good and of late years, a fly of mixed red and black, with wings, called by some from his colors, the devil fly, has come into vogue. The palmers are only to be despised and avoided. In summer the midges, the yellow sally, the alder fly, the little cinnamon, the black gnat the black and red ants, and in fact all others are attractive. The water is then covered with myriads of many colored flies, and there is hardly any artificial but will find its representative among the real life."

We now skip an interval of two years and come to 1864, when Thaddeus Norris, a Philadelphian, produced *The American Angler's Book*. This book was distinctly American and there was no mistaking the type. In my opinion this is one of the greatest of the old-time American fishing books Norris was a conservationist and one of the best fishermen in the country His volume has been gaining yearly in popularity and, unless this writer is very much mistaken, it will some day occupy an honored niche among the rare and valuable angling works associated with our country. It is, in a way, a landmark, due to its accurate portrayal of the then existing conditions and the homely philosophy of the author. Those of you who have failed to read *Dies Piscatoriae* in the latter part of the book, especially the chapters *Fly Fishing Alone* and *The Angler's Sabbath*, have missed something distinctly well worth while.

(*Continued next issue*)

IN THE MAY ANGLER—Al Shimmel comes up with a buster of a trout story in "The Boss of Red Bank"; Gene Craighead has an article and pix on a curious, rare, snipe fly; Don Shiner presents another picture story on how to build a boat via the easy route at home; Earl Thompson runs into trouble with the good wife in a trout escapade while Nick Casillo prays for "A Piscatorial Revival." Look for these and other stories, features, photos, angling news and departments in the May Angler.

ON THE POLLUTION FRONT

:HEMIST TO TEST WATERS)F CLARION RIVER

At the direction of the Sanitary Water oard the Industrial Wastes Division has ıstituted a project for the sampling of the aters of the Clarion River in its upper aches to check if any industrial wastes are eing discharged to that river without passg through the waste treatment systems now operation at the industrial plants. A ıemist from that division has been assigned the work. A laboratory has been set up Ridgway where the samples will be ıalyzed. Sampling of the river daily at ırious points will also provide data on the ondition of the river from a pollution andpoint.

IORE PERMITS FOR REATMENT PLANTS

An additional number of industries have eceived permits from the Sanitary Water oard under the Clean Streams program for ıe construction of waste treatment systems abate pollution of the streams.

They are: Vincent Losito, cannery, New arden Township, Chester Co., operates ıring the canning season and produces ,000 gallons of waste water daily, treatment stem comprising screens, trickling filter and ttling basins. System to be completed by ct. 1, 1951.

Karl Lieberknecht, Inc., Laureldale, Berks ., produces 700 gallons daily of plating aste waters in the manufacture of textile achinery. The wastes will be treated ıemicals and provision made for settling. ıe system to be completed by March 1.

Moltrup Steel Products Co., Beaver Falls, eaver Co., a system providing for chemical eatment, aeration and settling of 13,000 galns daily of spent pickle liquor. Lagoons ll be provided for the sludge. System to completed Nov. 1.

Deenen's Dairy, Hickory Township, Mercer ., system to provide for aeration and ttling of 6,000 gallons of waste a day.

Kendall Refining Co., Bradford, renovans to four oil separators to provide greater iciency and complete removal of settleable lids from waste waters estimated at 620 llons a minute. To be completed Sepnber 1.

Milk plants of the Dairymen's League Coerative Association located in Springcreek wnship, Warren Co., and in Mansfield, oga Co., each producing about 6,000 gallons of wastes daily will have systems providing for aeration, sludge digestion and settling to be completed June 1.

Ideal Farms, Wetmore Township, McKean Co., treatment of 4,500 gallons of wastes daily by aeration and settling. System to be completed by June 1.

Dunbar Corp., Dunbar Township, Fayette Co., sand washery producing one and one half million gallons daily of waste waters which will be treated through a settling process. System to be completed June 1.

SANITARY WATER BOARD HAS POLLUTION EXHIBIT AT PHILA.

How the dust and refuse of coal which silt up the Schuylkill, causing enormous damage to the stream, are being caught at mine mouths upstate and kept out of the water may be seen in a new installation in the Academy of Natural Sciences of Philadelphia, Harold T. Green, Director of Exhibits announced yesterday.

This exhibit is sponsored by the State Sanitary Water Board for the purpose of showing the people how, by running mine water into settling basins on mine property, this destructive anthracite waste may be recovered as a valuable by-product instead of being poured into streams to kill the fish and choke the channels.

The exhibit, which has moving parts and water in motion, shows a typical Pennsylvania mine operation at stream side. It is one unit of a great water-and-man hall now being installed in the museum at 19th and the Parkway by state and city authorities and industries. While several units are incomplete the culm settling basin is now open, as is an adjoining life-like demonstration of the sad results of lack of headwaters control. The latter is sponsored by the State Department of Forests and Waters. These may be seen free, 9 to 5 daily; 1 to 5 Sunday.

16 Watersheds in Western Pa. Protected

Action has been taken by the Sanitary Water Board under the Clean Streams program to prevent addition pollution to polluted streams and to assure preservation of the clean streams on 16 watersheds in the western area of the State because they serve as public water supplies or for recreation. To accomplish the purpose the Board has decided mining of coal on those watersheds will be permitted only under condition prescribed in two special type permits.

Under one type of permit any discharge from a mining operation on a polluted stream may not be of sufficient volume to have any detrimental effect upon the stream into which it flows. The other type permit relates to mining operations on clean streams and in those cases all acid discharge must be prevented.

The watersheds are: Allegheny River above Kiskiminetas River, Slippery Rock Creek Watershed, Little Connoquenessing Creek Watershed, Little Beaver Watershed, Kinzua Creek Watershed, Clarion River Watershed, Redband Creek Watershed, Mahoning Creek Watershed, Sandy Creek Watershed on the Allegheny River Watershed, Little Scrubgrass Creek Watershed, Crooked Creek Watershed, Tangascootack Creek Watershed, Huling Run Watershed, South Branch Bear Creek Watershed and Youghiogheny Watershed.

No Postponement on Schuylkill Cleanups

The Pennsylvania Sanitary Water Board at its meeting in Harrisburg today reviewed the progress being made in the anti-pollution work being carried out under its direction in the Schuylkill River Basin.

As a result of its deliberations the Sanitary Water Board declined to postpone the date previously established for the completion of all municipal and industrial treatment works discharging to the Schuylkill, which was January 1, 1951.

The Board reaffirmed its previous order that the construction of all such waste treatment works shall proceed forthwith and that any municipality or industry not having fulfilled its obligations by the date set would be considered as delinquent under the Board's orders.

In addition to this general stand the Board took specific action in the case of Reading and directed that city to proceed without delay in the modernization and enlargment of its sewage treatment facilities for which plans have already been approved by the Board.

COMPLAINT ! !

A gentleman, owning a cottage upstate, rising up in righteous wrath against the actions of some unthinking anglers, has this to say: "Last year on the first day of the trout season, fishermen built a fire along a certain creek for heat. It was a cold morning but not cold enough to warrant burning up several hundred acres of mountainside timber and debris.

Why did these thoughtless sportsmen (?) leave enough sparks to start a forest fire? It required the services of many paid fire fighters and a lot of volunteers who gave of their time and energy, ruining their clothes fighting a fire carelessly started.

Several other fires along this creek left smouldering, were finally extinguished by other observant persons.

BE CAREFUL OF FIRES ALONG STREAMS . . . they make a heavenly landscape look like hell!"

PREVENT FOREST FIRES
KEEP PENNSYLVANIA GREEN
GROW MORE TREES

Trout Double Cross

(*From page* 9)

But the big trout stopped short of the fly—it could not have been more than an inch or so—and then slowly sank back to its position in the water.

"You raised a dandy," I called to Ernie. "Try that spot again!"

Delicately Ernie's fly alighted on the water just at the foot of the falls. Again it drifted gracefully down with the current—and again the big trout looked it over and turned away.

In the current along the far shore the fly brought a different reaction. Every time it floated past a big sunken boulder a trout flashed out from behind the rock, turned with a swirl under the surface just beneath the fly, then arrowed back to its hiding place.

It went on like that for a quarter of an hour. Different patterns of flies brought no better results. Nor did a gradual tapering down of the leader point until finally 6X nylon was being used.

And the most maddening part of the whole affair was that between the times the trout refused the artificial flies they continued to rise regularly and feed in their peculiar manner.

When the tiniest flies in the box had failed to produce results my friend had an idea. He took one of the midgets, clipped off all of the hackle, and trimmed the wings to a few whisps. He attached this lure to his 6X tippet and went back to casting.

How things changed!

The trout began taking the skeleton flies.

But Ernie was missing them because he still could not see the rise of the trout, and they were taking the flies so gently that they neither hooked themselves nor gave Ernie the faintest indication or feel of a strike. That's when we started the crazy stuff.

I'd wait until a trout's nose seemed only an inch or two from the fly and then yell:

"Strike!"

Ernie would lift his rod tip smartly when he heard my call.

That way he managed to hook two of the fish, which we decided was quite an accomplishment considering our method of fishing.

We got tired of the game after a while, and again we sat together on the rock. We watched a little longer as the fish continued their methodical rises, and while we smoked cigarettes we pondered what we had seen.

First of all, we had discovered that in spite of all signs to the contrary there were trout feeding in that low, clear stream. We also had proved that they were taking minute natural food floating just under or on the surface of the water. And, finally, we had learned that they were suspicious of any but the tiniest artificial flies.

As we moved along upstream to finish our afternoon's fishing we decided to apply these lessons of the big pool.

We continued to fish every bit of water into which a trout could make its way. We kept our fine leader points, and we fished as delicately and as quietly as possible. We stuck to trimmed-down flies.

And as a result we had an amazing couple of hours of fishing. Because the water was more shallow than in the big pool, we were able to see most of the rises and to connect with a good percentage of the fish that made passes at our lures.

We discovered another thing that was to our advantage under prevailing conditions. Where before we had felt it necessary to be extremely careful in the patterns of flies we used, we observed that with the stripped down lures the pattern did not make much difference. After all, there was not much in the way of shape and color for a trout to inspect in a fly that consisted only of a tiny hook, a slim body, and a few sprigs of wings.

We had no trouble keeping the flies afloat, either, for with the fine leaders we were using and the removal of hackles and most of the wings, the bodies of the flies—whether of quill or spun fur—were sufficient to keep them floating just on the surface, which is precisely where the trout were getting their natural food.

I'd like to be able to report that at least one lunker trout was netted before the afternoon ended. Nothing like that happened, but we did have some fine fishing despite water and weather conditions which ordinarily make trout fishing tough and nerve-cracking.

At the Sign of the Trout Lily

(*From page* 3)

angling idiosyncrasies. Despite the fact that the fish itself may be a determining factor in this matter of when it shall be caught, we find the average angler steadfastly adhering to age-old as well as up-to-the-minute signs and tokens. What is more, if we deviate from this commonly observed procedure, we are losing much of the fun of fishing. Nowadays altogether too many things are being stripped of their glamour.

Many manifestations are more or less transitory. One can't always be astream at a certain hour or minute or when clouds of certain insects are abroad. Neither can one depend to much on the physiographic and celes tion phenomena.

I prefer to cast my lot with some thing that is more stable, less evanes cent as well as more convincingly re lated to your finny prey. Take th trout lily, for example. This six parte member of the lily family variousl known as dog-toothed violet, yello adder's tongue, fawn lily as well as number of other strictly localize names, spreads its blooming perio over an interval of several weeks usually from mid-April to late May the magic days encompassed in tha period being the most productive o most of the trout streams in thes parts.

He who chooses the trout lily a the standard bearer of good fishin makes no mistake. Why, even a casua glance will convince the most unim aginative angler that the leaves of th plant are but botanical representatior of the vivid flanks of the belove brookie. Is there a more convincin argument?

The Caldwell in mid-April is usuall flanked by a few of the most ventur some of this hardy family. If I se but one of the pretty, nodding head I'm confident of action. Not that th flower has any magic powers to induc the fish to bite, but because of th confidence which it gives me. A patc of them is as stimulating to me as th sight of a good rise, if you get what mean.

Singularly, last year's opening da found most of them buried under thick snow blanket. When I arrive at the mouth of a tributary strea after having fished a good mile of th main stream without results, I droppe the worm that I was using into a din inutive pool not more than a rod length from where I stood.

Zing! Response was immediat The little tributary crashed throug with a brookie; not a big one, mir you, but large enough to be sou satisfying and legal.

Just as I creeled the chunky tro I spied a figure coming down throug the alders farther up the tributar A minute later I was exchanging gree ings with a brother angler. Aft asking him the inevitable question l obligingly slid the contents of h creel on to a patch of streamside mos when he parted the damp fe fronds in which he had them wrappe I involuntarily emitted a low cry. Ar who wouldn't? With their dusk flanks still showing evidence of form splendor were six beautiful brook tro ranging in length from eight to te inches. Then, I spied something el Mixed with the tangle of ferns we several leaves of the trout lily t

(*Turn to page* 22)

Our Anglerettes — FOR AND ABOUT MILADY ANGLER

By ELLEN A. DIETRICH

Tiny anglerettes from Upper Darby enjoy a fishing picnic day on Darby Creek. (L-R): Jeanine La Brie, Maureen Johnson, Kaye Watson, Joan Flemming and Barbara Kinsler.

A Tiny Plastic Bottle in "Pockets Galore"

'I can't understand why at least *one* of us dn't hook into a brookie this morning, use we *know* there are some large ones here," ruefully reflected Evelyn, with mistakable disappointment in her voice.

'Now, don't be long-faced," consoled John. ou know I said first thing this morning at barometric pressure wasn't on the move. r were indications on the Solunar Table ch as to bode good fishing today. I've ticed within the past few minutes, though, at the old fisherman's barometer is showing ne action. We may have better luck this ernoon—that is, provided you aren't too ed or too chagrined to fish with me some re today. Are you?"

'No, indeed," replied our anglerette hastily. et's rest for a half hour, as you suggested, d then let's see about that 'better luck' s afternoon."

Evelyn and John Lucas had spent three surely, though unproductive hours on their rite trout stream. They had then pped at a bridge along the creek to enjoy tasty lunch. At this moment they were hering and burning sandwich bags and cheon scraps, in order to leave the landner's property in the same condition that y had found it.

How do you like your new fishing vest this time?" questioned John, approvingly pecting the item of wearing apparel he d bought for his wife the day before. It s, as she wished, exactly like the one with which she had surprised him for his birthday several weeks before.

"It fascinates me," she replied. "Why, never in my life have I seen so many pockets in any one coat or vest! 'Pockets Galore' would be an appropriate name for it, I believe."

"Do you have anything in yours yet?" the angler's curiosity prompted him to interrogate.

"Nothing, 'cept my makeup kit . . . "

"To be sure! A man should guess that one," her husband ribbed.

". . . and a tiny plastic bottle containing two of my most constant traveling companions, some thread and a needle," Evelyn concluded. "But yours!" she added. "Your pockets are fairly bulging."

"You bet they are! These pockets weren't designed for the sake of their appearance, you know." At that, John whipped out of a small pocket on the left side of his fishing vest a clipper, a knife and a disgorger.

"Why in the world are they tied with that piece of rawhide and fastened to a button hole? That's the way mothers often prevent tiny children from losing their mittens . . . but . . . but . . . for a *grownup* . . . well . . .", chuckled the member of the weaker sex. "Surely you don't expect to lose them, do you?"

"Just you wait until you lose something," was the challenge from her "better half."

"All those other bulges in the other pockets —what are they, my sweet?"

"Just a few of my constant travelling companions when I'm on the stream," obliged John. "Take a look at them," he invited.

Out came a fly box, well filled with wet and dry flies, as well as an assortment of streamers. Then, a plastic container of spinners, split shot, a small rod repair kit for on-the-stream use. Next, a plastic rain cape, a fisherman's barometer and a pair of pliers with side cutter.

"And what have we here?" puzzled the explorer femme. "A Fisherman's De-Liar it is labelled. We all know many folks aver that fishermen are liars; but who ever heard of a gadget for de-lying 'em?"

"I wouldn't agree with those who call fishermen untruthful. Some are (inadvertently or otherwise). But many are *not*. This gadget makes it easier for a fellow to tell the truth about the size and weight of his catch if he's at all desirous of doing so With this part of the contraption he weighs his fish; and with this self-retrieving steel tape he measures its length."

Just then the pliers slipped from Evelyn's hand and landed dangerously near the edge of the bridge. As she hastily stooped to pick them up, the tiny plastic bottle fell from her vest of many pockets. It dropped lightly to the water below. Suddenly—almost before the tiny bottle struck the pool—a brook trout came to the surface, grabbed it and took it under. Both angler and anglerette gasped in amazement.

"Now I understand the reason for attaching as much of one's equipment as possible to the button holes of 'Pockets Galore,' sir," apologized the wife, already sorry for having made fun of what had seemed to her an unnecessary and almost foolish precaution. "If I had had that tiny bottle so tied, it would still be with me, wouldn't it?"

"I believe it would. And if you had had it attached to your hook and line, that big trout might still be with us, mightn't it?" smiled the hubby.

"Indeed I think so."

Just then John casually glanced at his fisherman's barometer. As he did so, his eyes opened wider.

"Huh!" he exclaimed. "No wonder that trout jumped up to take the tiny bottle from the surface of the water. The indicator of the barometer *has moved* considerably while we've sat here. Look!"

"So it has!" ejaculated our anglerette.

"Let *us* move, too. I honestly believe we are in for that 'better luck' this very afternoon, dear."

Off they scrambled, John ahead and Evelyn a short distance behind, both whipping out their fly lines with ease and accuracy, and both eager to learn whether the incident of the tiny plastic bottle and 'Pockets Galore' really indicated what John had just predicted.

At the Sign of the Trout Lily

(*From page* 20)

gether with a solitary yellow blossom.

"And trout lilies, too," I observed approvingly.

"Yeah, there's quite a patch of them in bloom back there in the alders in the lee of that bank," he said, nodding in the general direction of the alders. "I allays figure that the trout will take holt when they're in bloom," he added, and I nodded in agreement.

Somehow I restrained the urge to ask where he had taken the brookies, although everything pointed to the attractive tributary. Accordingly, I made a mental note of it for reference in the near future.

Trouting on the Caldwell is not only an event, but an adventure. It is one of those brimming streams, running nearly as full in June as in April. Seldom is its pellucid water dimmed by sediment. On those rare occasions when it does run a bit roily, the condition usually clears up in a few hours.

Another outstanding feature of the Caldwell is its startling resemblance to other streams that I have fished. One stretch just below Selkirk bridge is typical of the many which I formerly fished in New Hampshire; the similarity extending even to the white pines, alders, and profusion of wild flowers. Another segment never fails to transport me to a favorite spot in eastern Ontario.

It's an unusual stream, you say? Not exactly, because it is so typical of many others. You too, doubtlessly have a favorite to which you ascribe unusual attributes whether it deserves them or not.

Like many another stream the Caldwell is temperamental. Anyway, after my encounter with the obliging fisherman at the tributary, I continued on for almost half a mile without taking a single fish. The eddy above the bridge and the fast water below it were inscrutable as water can so frequently be.

After a brief lunch in a fine beech grove I once again picked up my tackle and headed for a series of pools where one seldom misses. At the first pool the stream makes a sharp left turn and then flows for a considerable distance alongside of what geologists call a low drumlin. The latter has a southern exposure and the warm sun had melted most of the snow. My heart leaped at what I saw. The left bank of the stream was practically yellow with the nodding blooms of countless trout lilies. With lightened heart I went to work.

Well, my efforts were mindful of that classic *Casey at the Bat*. Yes sir, I ignominiously and completely struck out. Sure, there were the trout lilies, in fact, millions of them, but as is often the case, no sign is a sure sign. Even so, I still consider the trout lily an unfailing sign of trout activity; for somewhere in this favored land where'er the trout lily blooms, someone, yes, at least someone, must surely catch a trout.

Trout Season

(*From page* 10)

and a song sparrow bubbling above the swaying catkins of the alders; there's the woodchuck blinking sleepily at the sun from the mouth of his burrow and the tracery of magic colors as the water weaves its fantastic reflections into an ever changing pattern. There's the flight song of the wood-cock mingled with the voices of the spring peepers at evening.

There's the friendly tug of water at your booted legs and the surprising roughness as you submerge beside the treacherous boulder. It's good to have a friend near to build a fire, help you wring out your trousers and hand you a strong cup of coffee from the thermos jug as you dry out.

There's the pride with which you display a good catch and enjoy them in their crisp brown richness or the excuses you make when the catch fails to materialize.

It's the taste of birch and sassafras buds and the smoothness of a peeled willow; the old coordination between hand and eye and the sudden turn of the wrist as a good trout flashes at your deep drifting nymph; and the peppery tang of the tip of new growth on a cress head.

Realization sometimes changes an optimist into a pessimist; but the realist extracts the last drop of pleasure from every experience and is continually searching for others. This is the secret of retaining youth.

The Kid's First Trout

(*From page* 5)

took today. True, I did get one light "tap" (I'll not call it a strike, it may have been a chub), but I missed the fish. Finally Dave called and glancing upstream I saw him holding up about a ten-inch brownie. He held up the skunk pattern streamer so I could see the lure he'd used. Anxious for the feel of a trout, I put on my black-and-white streamer.

Fishing this stream cross-current, tugging it slightly, I saw the creation was a clever imitation of the butte minnow. To the human eye, th tightly gathering and then expandin hairs of the streamer was a minnow i distress. One eleven inch browni agreed with the human eye. He socke the streamer.

It was the season's first strike, and good one, a long full sweeping strike and I set solidly in the trout's lowe lip. He'd been in Pocono Creek som time, darker above, very red spotted with a deep yellow belly. He didn' clear water, but he dug hard fo freedom.

I creeled the brownie without hitch—but I was reminded of anothe day, ten or so years ago, along Lehigh County's Lehigh. That day, the firs strike was a dandy rainbow, a savage fighting fool. He didn't give you tim to think after the hook was set.

That year, I'd been too busy to properly check fishing equipment; a bi mistake. To begin with, deep crack had opened in my fishing boots at th knees, and icy water seeped in. Thi was bad enough, but the second mis take was worse. I hadn't checked m landing net, which had spent most o its long life in a dark, damp cellar When finally I netted that fightin rainbow, I swept upward with the ne and discovered that the fish ha plunged through and was again in th creek. The net was rotted through A few seconds more, and I'd lost th rainbow.

Today, however, I fished with well checked equipment. So with th brownie in the creel I walked upstrea and began whipping stream I'd covere with nymph and royal coachman wit the black-and-white streamer. Nov the sun winked weakly from thin grey black clouds and it wasn't as cold, s you felt more like fishing carefully.

I was having considerable troubl with snags, due, I knew, to the colore leader I was using. This leader is a ordinary tapered job (generally it' best to use level leaders for bucktai or streamer but it was too cold fo changing) dyed a purple-red color that in water, is absolutely invisible to th human eye. Especially in low water this dyed leader seems to increase th number of strikes. It has the draw back of being hard to see, so that, wher playing a fish, you often wonder where the deuce your line really is.

I'd been snagged a half-dozen times had two strikes and one more fis when I reached the hole where I' taken the first brownie. Then Dave Ellis and I broke some dry sumac and lit another fire.

"Where's the kid?" I wondered.

"Downstream, just back of that worm fisherman we met," Dave said. "Poor rascal hadn't had a strike."

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School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

Snake Story

During April, unless spring is unusually dy, Nature's limbless children, the snakes, ne out of their winter-long hibernation. usual they have occupied the age-old n which is almost invariably located in a ld, rocky valley-pocket, shielded from wind and facing the sun. For a number weeks they hang around the den, drinking the life-giving sunlight during the day l returning to the sunwarmed cavity at ht. Should a cold snap come, they can re-at into the nearby shelter.

Slaves of Temperature

A snake is coldblooded, and its activity in-ases as the temperature of its environ-nt rises. Its den must be above freezing winter through or the animal will die. en at 40 degrees Fahrenheit, the snake helpless. At 60, it is sluggish, but in the s it is at its best. The temperature of a ke is just a little less than that of the around it.

Summer Outfit

One of the snake's spring duties is to get of its last year's suit. Without the aid hands, it discards the fragile epidermis, torn, but turned completely inside out. The ts, or bands, or lines beneath make a ght, fresh pattern. About this time the sted flycatcher is nest building. It finds cast off skin and for some reason uses it the construction of its nest.

Out of the Den and Back

After the mating season in May, the mem-s of the old den range far and wide. They sume some birds and fish, and probably ny times as many insects and rodents. t at the first hint of autumn, they start the gration homeward. Now they are fat for ernation. Often snakes of several species l den together; poisonous and non-poison-kinds appear to get along with each other the same den.

Let's Save Them

Man has always been peculiarly interested snakes. He is startled by them; he is cinated by them; he is afraid, and he s them. They receive no protection and soon will probably become extinct. But superstitions and the old wives' tales ut them will probably be told long after interesting and usually harmless group animals has disappeared from our land.

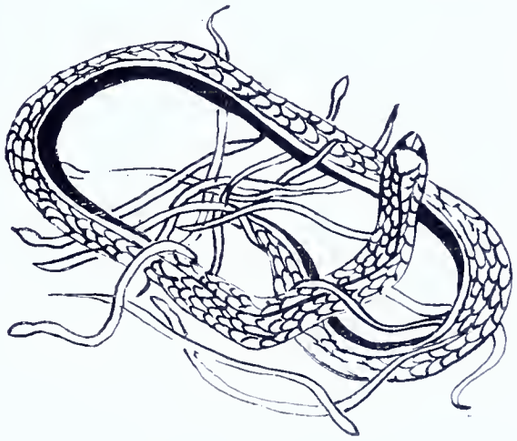
Can you list five "facts" about snakes that ence has been unable to prove?

Blood Goes Round and Round

An interesting demonstration of circulation blood can be worked out with a tadpole. e blood flowing through the external gills the tail is nicely seen under low power a microscopic slide. If you have a micro-jector, the entire class can watch. Check on the frog's blood system. Compare it h the fish and the bird in this respect.

Snake-Quiz

1.——The study of snakes is (a) herpetology, (b) ornithology, (c) ichthyology.
2.——Snakes are most closely related to (a) worms, (b) salamanders, (c) eels, (d) lizards.
3.——Which of these snakes lays eggs: (a) garter snakes, (b) water snakes, (c) black racers, (d) ribbon snakes.
4.——Which of these snakes is poisonous: (a) ring-neck snake, (b) coral king, (c) indigo snake, (d) coral snake.
5.—Which of these snakes kills its prey by constricting: (a) water snake, (b) garter snake (c) pilot black snake, (d) ribbon snake.
6.——The only one of these poisonous snakes to get as far north as Canada is (a) copper head, (b) massasauga, (c) water moccasin, (d) coral snake.
7.——Which snake will feign death: (a) hog nose snake, (b) python, (c) black snake, (d) bush master.
8.——The largest poisonous snake in North America is the (a) Fer-de-lance, (b) diamond-backed rattler, (c) bush-master.
9.——Which of these snakes is not a pit viper: (a) rattlesnake, (b) cobra, (c) coral snake, (d) copper head.
10.——The world's longest snake is the (a) anaconda, (b) python, (c) boa constrictor, (d) cobra.



A Scrap Book of Seeds

Scotch transparent tape makes a seed collection an interesting and permanent project. Use a number of seeds of each species and arrange them in a pattern on the scrap book page. You'll soon discover that seeds are of many different sizes, colors, and shapes, and that your patterns will be determined by this. The common and scientific names should be printed neatly below the seeds. If all of this is covered with tape, the seeds will remain in position and the labels will stay clean and legible. Select a background that contrasts with the color of the seeds.

Answer to Snake-Quiz: 1a, 2d, 3c, 4d, 5c, 6b, 7a, 8c, 9b, 10b.

CHUCK, THE WARDEN, SAYS:

In discussing conservation with boys and girls, invariably the question comes up: "What can I do? How can I—one individual, without influence or vote—do anything about the wise use of our natural resources?"

There is one thing you can do right now. And that is in the line of human conservation. Conservation of yourself, if you please. Learn to understand that organism that is *you;* understand the part that care of that organism *in youth* has on health, happiness, and success *later* in life.

A Garden?

Why not plan a garden for your own this year?

If your space is very limited, save it for vegetables like lettuce, radishes, string and wax beans. If plenty of ground is available, plan on sweet corn, Irish and sweet potatoes, tomatoes, cabbage, peppers, carrots, lima beans, etc.

Musical Instrument

Birds differ from other animals in a good many ways. One is in song. No other except man (?) makes agreeable sounds. No music like that of the hermit thrush comes from the throats of the lower animals. Bird music is produced by the *syrinx,* an organ found only in birds. It is located at the point where the bronchial tubes leave the trachea. Here is a slit-like valve with muscles for its control. This organ is unusually well developed in such songsters as the catbird, brown thrasher, and the hermit thrush.

The Kid's First Trout

(*From page* 22)

"Get any more fish?"

Dave Ellis shook his head. "Nope. And you know what I did? I switched to spinners. I had a couple strikes but they're hitting short, same trouble I usually have fishing spinners."

"I wonder if there's snow-water in this run-off," I said thoughtfully. "I was just thniking something the Pocono natives swear by. They say trout will bite in the coldest weather, just as long as there isn't snow and ice melted in the water. They claim the snow and ice lowers the temperature of the creek and numbs the fish."

"Sure, and they claim deer get one more point to antlers every year. They claim rattlers won't cross creeks. They claim you can forecast winters by the hair on caterpillars. Anytime someone starts an observation by tacking "they say" on the front I've got more suspicions than a bird dog's nose."

"Oh well," I sighed, "there's a full fishing season ahead. They'll hit our Cahills, Coachmen, Breadcrusts and Sedges before August comes."

"The Sedge!" Dave Ellis exclaimed. "There's a fly looks odd as a three-dollar bill to me, but I'm trying it next."

I thought: You try the Sedge, Dave. I'm pulling off this streamer monstrosity and try a Grey Hackle—call it an April Grey, if you've got to have a name—and see if maybe it's the answer.

Now it was apparent, from dark water marks along rocks and logs, that the creek was falling. This we expected, for that morning Scot Run, a feeder, was nearly normal.

It's been our experience that streams which are dropping present tough fishing problems. Back in minnow fishing days, I recall having trout rise to grab the bait, swim quickly to the bottom, and then hold the bait as long as you have the patience to wait, without attempting to swallow. On such days, I tried smaller minnows, spinners, and rubber minnows. The result was the same: strikes, but no fish.

Therefore, I expected, and got, no strikes. About noon, Dave and I gathered for a final time by the fire.

"There comes the kid," I said, pointing.

He came walking rapidly, as you'd expect a kid to come, with that free clumsy gait, and when he saw us he broke into a wide spread-toothed grin.

"Happy as a possum in a persimmon tree," Dave remarked. "Do you suppose—"

"I'd sure laugh if he had a creel-full!"

"That's what I was thinking," Dave said. "He's lucky, no question about that. But no, he *sure* didn't have good luck today with nymphs!"

It made you feel good, looking into the kid's brown eyes, at cheeks stained by frosty winds, at the careless way he threw rod and then creel on the earth. You saw yourself in that kid, twenty-five years ago.

But of course Dave Ellis was a father. "Will you learn to be more careful the way you throw down that rod? Rods cost a lot of money, Bill."

"Sorry, dad. Gee, do you both have enough fish already?"

"Sure, we got five dandies apiece, that's all we ever take. How about you?"

"Gee, I only got four. I'd of had the fifth one, too, but gosh, he dropped off just when I was dragging him ashore."

Dave Ellis and I exchanged surprised—yes, sheepish—glances. Now, Bill, as his dad, loves a joke. But you saw in the kid's face that he wasn't joking.

"Lemme, see," Dave said.

Then the kid got down on one knee, opened the creel, and stretched four golden beauties on the ground, not one under ten inches, that I saw through the drifting smoke of our sumac campfire.

I've known Dave Ellis a long time. Before and since, I haven't heard him swear in front of his son. I have long since excused the exclamation which followed that cold April day.

"I'll be damned!" Dave Ellis said.

There wasn't much more said. But walking through the brush toward the car, I sensed that something troubled Bill. He had that sort of knit-brow, hurt-dog expression that kids get, when not exactly satisfied.

At the car, disassembling our rods, packing equipment in the trunk, the kid *just* had to talk.

"Dad, there's one thing you ought to know," he said, and you almost expected to hear him say he'd tied a can on the cat's tail, only there wasn't any cat.

"Bill, doggone you, somebody gave you those trout," Dave Ellis said.

"No sirree!" Bill replied, and you saw pride flaring in the big brown eyes. "I caught them myself. Only that fisherman who went down past me said 'Kid, that ain't no bait to be using today.' So he gave me a handful of worms."

"Worms!" Dave Ellis echoed, and looked sharply at me. And then we both laughed. We laughed because it was funny. And we laughed because we, the veteran fishermen, had won back some of our lost pride. To think that Bill, the kid, could beat *us* at our own game. Ha!

. . . That's about all there is to tell, of that cold April morning's fishing trip. Later on, Dave and I thought we'd expected too much of Bill. A guy has to start at the bottom in trout fishing, as in other phases of life. You just kind of expect to see a kid fishing with a worm.

Maybe we grownups ought to watch a worm wiggle on the end of a hook a bit more, too. Then we'd all remember that we, too, were kids not so long ago—and maybe we'd smile more, and be more kind to our fellow men.

Dick Irons, Sharon, Pa. caught this 44-inch, 28-pound muskie last Nov. 20 at French Creek, Cambridge Springs, but had to ditch the fish because he became stranded in a snow storm. He left his fish and car at Greenville and returned to drive the auto home Tuesday after roads cleared. The big lunker was frozen solid, had to be thawed out. Irons planned to slice the big gent, distribute pieces among his fellow employees.

MURDER!

Yep—that's what folks think about prices today! Gone is the nickel cigar, 5-cent lunch, or nickel trolley ride.

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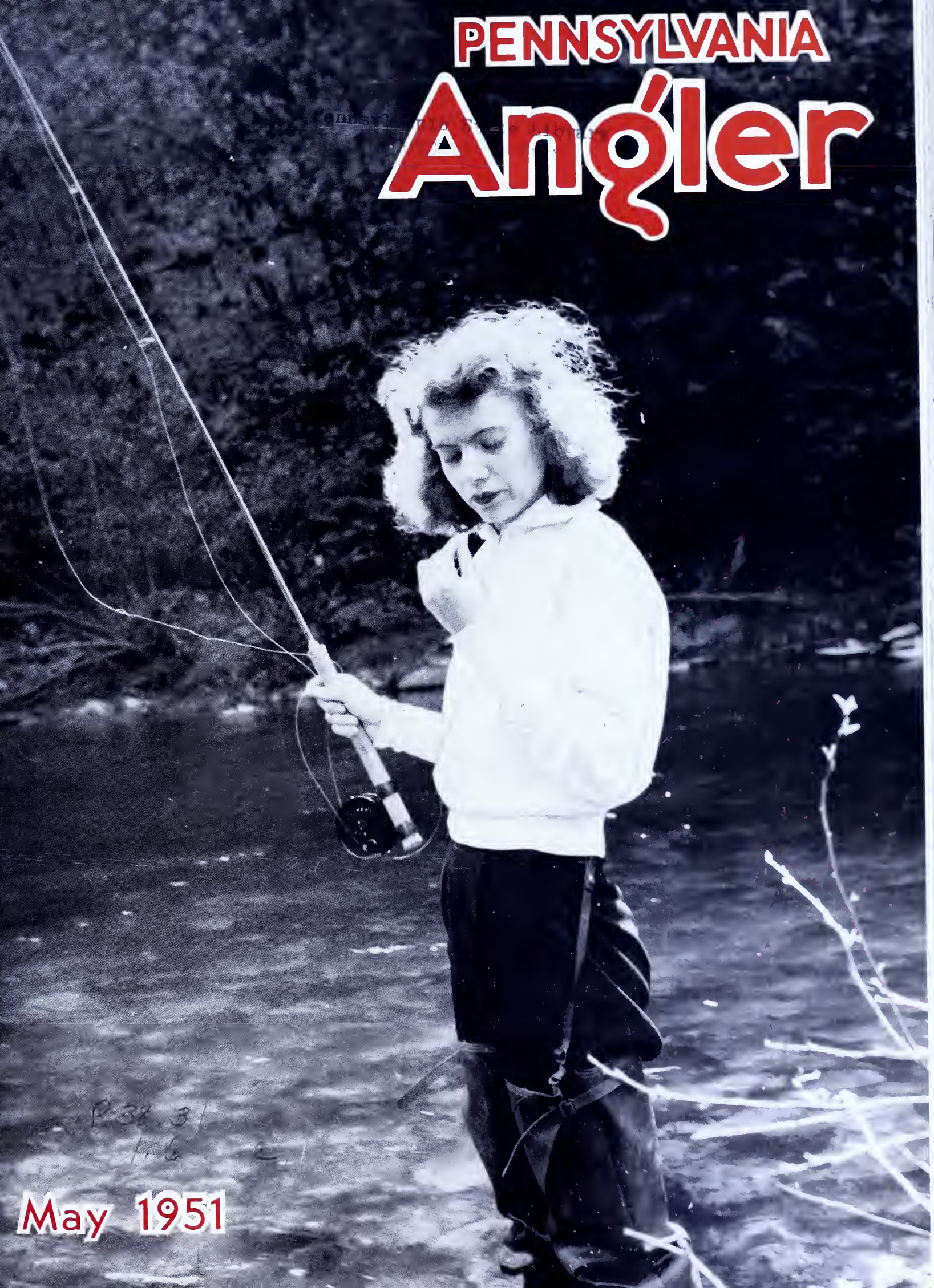

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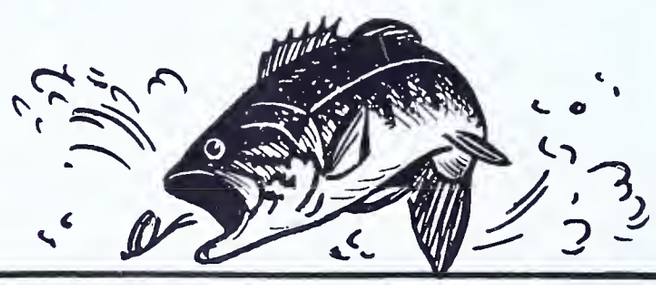

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA
ISH COMMISSION
HARRISBURG, PA.

The Angler

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The Cover . . .

A Maid on a morning in May.

Blossom Time

Along the stream, in uplands and lowlands, it's that time again when the pink and white color scheme of the countryside stirs the sense of the esthetic. Apricot, peach, cherry and apple blossoms, in that order, parade their gorgeous floats through the month of May, announcing the debut of another summer.

Snow again covers the mountains but it's a blizzard of white dogwood blossoms that swirls through the woods. In the lowlands, meadows clothed with wild flowers, cause anglers to pause in admiration along the way.

Everyone has an allergy for beauty when all the world's in bloom.

The Boss

The Boss usually knows what he's doing but even the best of 'em get fouled up now and then!

THE SUN fought a losing battle with the thickening mass of cumulus clouds piling above the crest of Baughker Mountain. Already the shadows of the hemlocks swept long dark spires across one side of Red Bank Pool. Only the reflected image of the white birch glowed dully against the still green depths. To the left the colder waters of a sand spring brook mingled with those of the pool. Foam patches and cloud shadows followed each other down the pool. A boulder set deep in the bank, deeply under cut by a freshet and overhung by fern formed a dark cavern cool and protected.

A hunting mink followed the brook testing the sultry air with its sensitive nostrils. Carefully it investigated a cavern beneath the hemlock roots, then slipped under the water to appear a moment later on the downstream side of an overhanging clump of wood fern. The cavern under the boulder drew the little hunter like a magnet. Slowly the snakey head with the beady eyes turned as if pondering a problem and again the mink submerged and began swimming down the scant two yards that would bring it to the hidden lair. A streak of silver, crimson, and green set the mink twisting in pursuit, but the trout flashed toward the turbulent water at the head of the pool where none but the swiftest of the water creatures could find sanctuary. Reluctantly the mink gave up the chase, came to the surface and swam across to a projecting hemlock root and shook the water from its fur. A kingfisher guarding the shallows from its perch on a dead branch, rattled his harsh laughter at the disturbance of the pool. At the sound the mink half turned and snarled its disappointment before disappearing into the tangle of roots and driftwood.

The kingfisher kept his place with the infinite patience that is the strength of the wild. His sharp eye saw the drifting shadow of an enormous native trout. Perfect in every respect with the exception of the bottom half of the tail which had a torn ragged appearance of healed lacerations. The same kingfisher could have told of the time two summers before when the mink and trout had stirred the cloudy sediment of the pool's floor with their violent contortions. The one twisting and turning for life itself while the other equally savage to procure the food that sustains life. The mink had been cheated of his prey when the trout had fought its way into the fast water and had battered the mink against one of the sunken stones just as it had reached the limit of breath. From that day forward the Boss of Red Bank became a marked creature.

The shadows crept farther and farther into the pool until only the silvery mirror of the unbroken surface glowed against the sky. A Cinnamon Caddis dripped to the gray rock that guarded the Boss' home. Running down the steep side to the water's edge she dipped the tip of her abdomen the silvery brightness then wra her wings closely so as to trap sil air bubbles next to her body slowly and cautiously crawled ber the surface and feeling carefully the tip of her abdomen began to

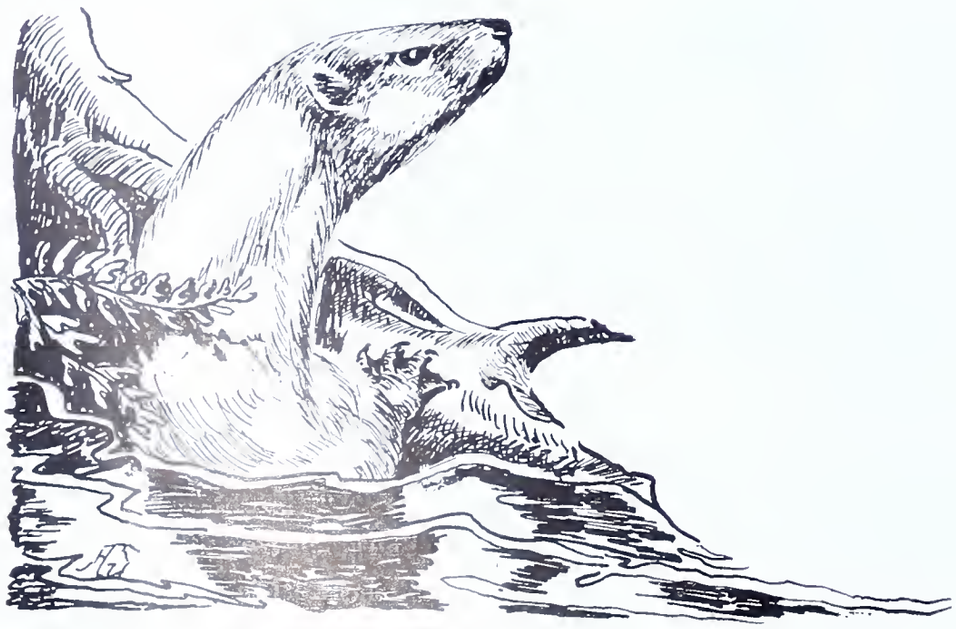
posit row after row of her pre eggs. Another and another of her ters followed until a number clambering here and there in the urgency of their duties. The gloo momentarily by the flashes of di lightning showed that the storm had been threatening all afternoon moving nearer and nearer. A bi of wind that presaged the storm ru the calm surface of the pool brushed three of the Caddis flies the water. A three-inch chub m up and took the first one as it s gled to lift back to the security o boulder. Working the surface he a second two feet further up the and nearer the bank. A third strug but managed to reach a dragging f of the wood fern and reach sa Another fell, but failed to strugg the surface. With the reckless urg of hunger the chub sucked it in, felt a stinging restraint and dov the nearest shadow.

The Boss of Red Bank watched chub dive straight for his lair struck almost languorously.

* * * * *

The sweat stood out on my fore as I toiled up the steep trail to cabin perched like a mud swall nest against the gray rocks and greens of the mountain. Kabilono home of the Northwest Wind, called it, but today it belied it's n Even in the shade of the evergr the heat seemed unendurable. My packs made little noise, on the n littered trail, so it was not un dumped my gear in the corner o porch, that Mak looked up from th vise that occupied his attention.

He grinned a boyish grin that b the silvery hair and twinkling eyes. "Figgured you'd like an ex to get away from town fer a da two. Trout season soon over and the hot weather and low wat reckon you'd fall for a bit of somet special. Pull up a chair and dig your pipe. There's a pouch of sp



)f Red Bank

By Albert G. Shimmel

on the shelf under the rods."

Mak dug into his shirt pocket and uced his favorite briar with the red trout on the bowl. Carefully he d it tamping the fragrant tobacco his stubby fore finger. Again he hed into that shirt pocket and uced a "long handled" woods h. When the smoke was curling fortably from both he returned to sk.

long shanked fine wire No. 12 x served as a foundation, Cinna- fur from between the ears of a ontail scalp was spun on carefully ed yellow tying silk. A few turns ellow silk far back on the bend of hook caught a bit of narrow silver l and a pair of very narrow ginger les. After building the body of fur ibbed it with silver and then palm- l the two ginger hackles. A pair of er hackles were tied in at the lders then from a pair of cinna- turkey wings he matched the gs and tied them pent along the y. The hackles were wrapped, the s of the wings trimmed and the d whipped expertly. The match which he had lighted our pipes trimmed to a sharp point and d to drop the brownish yellow uer that formed the head. The shed fly that he placed in my ped hand was a marvel of expert ftsmanship and the experience of rs of close observation. A minute r he dumped a half dozen of the e pattern from a box extracted m his hip pocket. "There, that uld be enough to get you a pair decent trout to show your wife, that f you don't take to hangin' 'em in trees like you did that afternoon Hendrickson hatch was on."

Again that boyish grin lit his face I winced at the memory of three ng flies and two broken leaders ore I recovered enough to cast to, l land the first of six trout that industriously on the first good fly ch of the previous season. Trout ver is a strange malady!

Late in the afternoon we followed winding trail around Baughker point to a place where three long pools were fed by underground springs. It seemed that all the trout in the little river had congregated in this hundred yards of deep cool water. The Cinnamon Caddis hatch late from the cool spring water had come back to lay their eggs in late afternoon and evening. The large browns and natives fed with the abandon of fingerlings. I had two hours exciting sport and the three that Mak bedded in damp fern and hemlock were the best I had taken during the season.

Mak had been content to watch the sport from the sidelines and toss an occasional comment my way. Now that I had signified my contentment he picked up his fully rigged rod and moved up stream in a manner that showed determination and some sort of plan.

Ten minutes walking and Red Bank Pool glinted strangely in the half dusk of the approaching storm. A breeze ruffled the surface and sent a half dozen Cinnamon Caddis flies flounder- ing across the surface. Mak paid scant attention to the deeper, and, to me, more attractive part of the pool where a small trout or two dimpled. Carefully he crossed the lower riffle and gained the bank just below the boulder that marked the entrance of the sand spring run. For perhaps two minutes he stood watching the water carefully then with a false cast or two he dropped his fly so that it bounced from the rock to the surface of what I thought was shallows. I sensed rather than saw the turn of the wrist that set the hook but there was no mistaking the grunt of disgust that escaped his lips. "Only a ch—" then the water boiled and arched with white as the line knifed toward the tumbling rapids at the head of the pool. Mak talked to his captive in an undertone as he always did when he had a good one on. He met each rush as only a master angler can. The fascinating picture of the grace and skill with which the drama was being played out held me until with a shattering crash and blinding flash the heavens opened in a deluge. Before I could get my poncho from the pocket of my fishing vest and put it on I was already wet to the shoulders. Mak's fly-ringed felt hat dropped under its weight of the water that cascaded from its brim. The intermittent flashes of lightning showed the smile that disregarded everything except the business at hand. The shower passed quickly and the darkness gave way to beauty of sunset just as Mak dipped his old net deep and brought to the surface the Boss of Red Bank. Some how I was peering over his shoulder at the colors that matched the sunset, the frayed tail and the great hooked jaw with the Cinnamon Caddis

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A Piscatorial Revival

By N. R. Casillo

Take some anglers, some goggle-eyes, a few catfish, a couple of trout plus one cockeyed bull in a meadow and you're bound to have action pop out of the mixture.

UP UNTIL a few years ago it was not uncommon here in western Pennsylvania to run into piscatorial surprises. Even some of the more densely populated sections would occasionally dish up something that would cause the good brothers to reconsecrate themselves to the gentle art.

For a year or two after some walloping smallmouths were pulled out of a half-acre pond scarcely beyond the limits of a sizable town, most every bass fisherman in these parts eyed every frog, farm, and duck pond with an appraising eye.

As a result of that revival many a bass as well as numerous lesser fishes and one noble brown trout were taken from places that would have ordinarily been scorned by the most humble disciple of Father Izaak.

Things really became hopped-up when it was reported that a farmer in a neighboring Ohio town forked a pike out of his farm pond while the fish was attempting to carry off a squealing shoat that had strayed beyond its depth. Let's not discuss the weight of the fish lest it might sow seeds of doubt.

Early last summer Bill and Burr and I, former inseparable fishing cronies, went into a huddle and emerged with the resolution to revive the reconnaissance trips which we formerly took, testing, if possible, the piscatorial potentialities of ponds and streams of all sizes and descriptions, in our county as well as in a couple of adjoining ones.

Bill was willing but not overly enthusiastic. "Why," he bitterly complained, "every fishable spot in this part of the country is either fished out or has been commercialized."

"That's just about what we thought eight or ten years ago," I reminded, "and then we stepped out and discovered Hidden Lake. Remember?"

"I shall never forget it," averred Burr. "Yes, sir, tackle bustin' bass out of a frog pond."

"And now look at it," grumbled Bill, "the most highly commercialized spot in the county."

"With a pet sturgeon for the jackpot if you can catch it," added Burr with a dubious shake of his head.

"But, there are several likely spots we passed up simply because we couldn't completely agree on them," I pointed out. "Spots which I'm sure had fish in them," I added.

Bill began picking up steam as his eyes kindled with interest. "And one of those places is down along Wolf Creek." He turned to me for confirmation. "Right?"

"Right," I nodded.

"And what was our reason for passing it up?" asked Bill, his voice jumping up a couple of octaves. "Why, it was because Senor Rogers, here, was afraid of the bull pastured there." With that Bill fixed a baleful eye on the hapless Burr.

"Now, lay off, you guys," remonstrated Burr. "We settled that long ago. It was a vicious bull."

Bill hooted. "That bull was too young to be anything but friendly."

"Mebbe so, but the farmer kept it there to keep fishermen out of his place," said Burr with a note of triumph. "But, no kidding, fellas," he quickly went on. "Did you actually believe that there were fish in those holes? They looked pretty small to me."

"Yeah, they look small, but I've a hunch that they are more or less continuous; joined together by subterranean passages," I said as my min flashed back to the scene.

Briefly, the score of ponds, rangin from twenty or so feet to more tha fifty long, formed a loosely connecte chain running parallel with Wo Creek which in some places was nc more than a dozen feet away. It wa our contention at the time that som of them were not only connected wit each other, but also with the cree itself. The water, as I remember i was slightly clouded, just murk enough to lend an air of mystery t its clean translucency.

Bill asked a pertinent question "Have either of you been there lately?

We shook our heads and then Bur went on to explain how the war's com ing sort of knocked things into cocked hat. "You may recall," h went on, "that when we emerged fron that thoroughly fishless interim, w sort of drifted apart. To be frank, he concluded, "I'd completely for gotten about them until just now."

"You had a good reason' to, growled Bill.

I broke up what could have de veloped into one of those interminabl albeit good-natured wrangles by ask ing, "Why can't we visit the place?"

"When?" Bill shot back.

"Early tomorrow evening, if it suit you two."

"Shall we take fishing tackle?" asked Burr.

"No, your lasso," giggled Bill.

That stretch of Wolf Creek betwee Christley's bridge and to where i empties into the Slippery Rock, is a most paradoxical stream. Ostensibly it looks like a trout stream, but contains, instead, largemouth bass, rock bass, catfish and other warm wate species. In the large pool under the bridge we have seen numerous bass and hordes of suckers consorting together while fishermen pulled out bullheads at a lively clip.

To make it even more confounding was the incident I experienced while standing on the stone bridge just a couple of miles west of the town of Slippery Rock. Early in the trout season I stood on that vantage point watching the approach of what I presumed was either an unsophisticated or thoroughly uninformed trout fisherman.

The smallest pond of this amazing series received its stock of rock bass from adjacent stream with which it is connected by an underground channel.

as I swiftly descended the steep embankment.

"Here, have a smoke," he invited as he held out his open pack.

After lighting up he slowly unloosed the creel off his shoulder and deposited it on the short turf at our feet. That fellow was hep to the art of suspense.

He didn't open the creel until after we had sat down on a convenient log. "There," he finally said as he swiftly flipped open the lid.

I emited a low whistle calculated to evince both awe and admiration. Reposing on a well arranged bed of delicate ferns were four of the most beautiful brown trout I had seen in years.

"Wonderful," I breathed.

"There are three more under those," he explained, shaking the creel to give me a peek.

"And you caught them in *this* creek?" I heard myself asking in a voice which I did not recognize.

"Why, of course," laughed the stranger, giving me a sidelong glance.

I took a grip on myself and laughed with him but a bit unnaturally.

"You must be thoroughly familiar with the stream," I syllogized.

The stranger shook his head. "No, this is the first time that I've ever fished it. As a matter of fact," and he flashed that pleasant grin, "I thought I was on the Slippery Rock until a farmer back there straightened me out."

What dopes we mortals are, I thought as I took my departure. Here, I'd been fishing the creek off and on

(*Turn to page* 19)

Any luck," I hailed when he came whin earshot.

Fair," he yelled back.

was flabbergasted. Surely, he dn't mean trout. My consuming criosity got the better of me so I clnced it. "You mean trout?" I yled as though half afraid he might anwer in the affirmative.

The fellow flashed me a quick look. "hy, of course," he finally answered a a slow grin bespread his face, dbtlessly because of the foolish look o mine.

was floundering for an excuse to se them when he straightened matters b inviting me down for a look.

Never before had I ever heard of a one catching trout in the lower reches of the creek. Maybe he has a ness of fallfish I hopefully pondered

The largest pond contained a variety of warm water fishes ranging from largemouth bass to bullheads.

FISHIN' UNDER DIFFICULTIES

By William Boyd

First it was the ice and cold weather, then inconsiderate angler spoiled the fun. Sometimes everything seems to go wrong on wha could have been the right day!

"I knew it!" This remark, in a decidedly disgusted voice, came from George.

It was early morning of the opening day of last trout season and we were driving in Jack's car up an isolated mountain road about six miles from the stream on which we intended to try our luck. Dawn had broken only about a quarter of an hour before and it was quite dark under the huge evergreen trees shading the narrow dirt road where we had come to a stop.

The road was covered from the embankment on the left to the edge on the right by a coating of ice as smooth as glass. This was understandable for one could tell at a glance that sun never beat on this particular stretch of highway. The towering pines flanking the road on both sides met overhead in thick foliage through which the sun's rays could not possibly penetrate.

Without a doubt this coating of ice had been on the narrow mountain thoroughfare since the preceding autumn. Further, it would be there for several weeks to come, for we were high above the valley floor to the north and spring was late in coming here. The sub-surface of ice was as hard as the glass it resembled and there was no indication that the ice had melted in the slightest.

Ahead of us, blocking the road, was a roadster, its engine racing as the driver tried in vain to ascend the slippery slope while a second man shoved as best he could from the rear. Indeed, he could do little to aid the motor, for he could not get footing on the smooth ice.

George and I crawled out of Jack's motionless car to survey the situation. There were twigs of evergreen on the ice in front of our car, indicating that the stalled motorists ahead of us, or others who had preceded them, had sought to provide artificial traction for their tires.

We picked our way cautiously up the treacherous slope to the stalled car. From their dress we concluded the two strangers also were bent on fishing. They were warmly attired in woolen jackets, and the man outside the car wore hip-length boots. I assumed the man at the wheel also wore boots, and if he didn't, his pair probably was in the trunk of his car.

"Having trouble?" I inquired of the fellow whose shoulder was against the rear right fender of the roadster. He turned his head and smiled ruefully as he gave up pushing to await our approach.

"Ain't this a heck of a condition for April 15?" he inquired. "We had idea we'd find winter up here on mountain. If we had known we v gonna encounter ice we'd have stop below in the valley and fished Rau Run."

The driver opened his door stepped out gingerly to join in conversation.

"Let's put some of these twigs ur your wheels," George suggested, " perhaps four of us can get you ur way by pushing."

Suiting action to words, Geo Jack, and I joined the driver's c panion in pushing. Our combined forts moved the light car on its in a few moments but we continue shove until it had gained such mentum we could not keep up wit on the ice.

The stranger continued running the road until both he and the disappeared around a bend of the hi way and I, at least, concluded we seen the last of them. I was ashame this conclusion about five minutes l when both of the men appeared at bend of the road and continued tow us.

"One good turn deserves anoth one of the fellows said with a g We had gathered up the evergr twigs on the ice after getting roadster on its way, had jammed s of them under our tires and had s tered the others on the ice ahead the car.

Jack climbed behind the wheel started the motor and the other f of us shoved with right good will It was considerably more of a job to Jack's heavy sedan rolling but we s ceeded in doing just that and Jack, managed to negotiate the icy stre and around the bend of the road fo hard dirt surface which provi faultless traction.

We thanked the two fellow fish men who had helped us out of dilemma and they, in turn, expres their appreciation for the help we l given them. I experienced a wa glow as I pondered on the good just demonstrated on the mount highway, and thought to myself ho kindred spirit motivated virtually of the sportsmen who set out ea each spring for the purpose of lur the wily trout.

I assumed the two fishermen in roadster were headed for the sa stream we intended to fish, but t did not prove to be the case for a

s roads a couple of miles beyond continued straight ahead while we ned right to negotiate an extremely p, one-car-width dirt road meand-g down the south slope of the ntain to the headwaters of the k for which we were bound.

his particular road had been built Civilian Conservation Corps boys r to the Second World War. It had n neglected since the CCC camp passed out of existence, although as evident the State Forestry De-tment had made what repairs were essary to keep the thoroughfare sable.

he road passed over the trout am at the foot of the mountain ere a galvanized pipe perhaps five in diameter carried the waters of stream under the road surface. e were a couple rather dilapidated s monopolizing the only parking ce along the stream where the road ssed.

ight or ten men, very obviously ives of the area, were grouped ut the deep hole where the water n the big pipe splashed on the er side of the road. Only one or of them had fishing rods that ked like real trout tackle, and I ned later that all were baiting with th worms.

bout a hundred yards beyond the ce where the stream gushed under highway we found parking space our car, although we had to run of the wheels over rather big ks to get far enough off the road permit other cars to pass. As it de-oped, we need not have gone to se pains to clear the driveway for other car came that way while we re there.

We had concluded that the deep e where virtually all of the natives re fishing had received the trout t had been stocked in this stream autumn before. And we learned were correct in this assumption en we talked with the friendly mers, two or three of whom had ed in dumping the trout when the ck from the state hatchery had ne that way late in the previous ar.

Most of the natives had fish even at s early hour, one showing us six e rainbows. He explained he had en fishing since daybreak and had ght his half dozen in the place ere the pipe tumbled its waters from other side of the road. As we ked, another of the natives, a middle-ed fellow wearing overalls, an old t hat, and a torn lumber jacket, ssed out a really big trout. And ssed out" describes the action, for pulled the 20-inch fish over the nes and the muck at the edge of stream until he could fall on both knees and grasp it with both hands.

I couldn't blame him too much for the manner in which he handled that big trout for I, too, would have made certain that he didn't get away had I hooked him.

Jack, George, and I had no desire to fish in the big hole about which the natives were grouped, and indeed it is doubtful we could have found, elbow room had we elected to fish there.

Downstream about 50 or 75 yards was another stretch of rather quiet water at the end of a rapid where the crystal-clear spring water tumbled over rocks after leaving the deep hole at the end of the road pipe. Here only two other men were fishing. Both spoke pleasantly to me as I paused above them to thread a minnow on my hook. I dropped this minnow at the place where the fast water entered the broad pool and the redfin was taken immediately by a hungry trout which evidently had been lying in wait for food at the head of the hole.

He was securely hooked and I had no trouble netting him. He was a 12-inch rainbow, probably one of the larger fish stocked the preceding autumn.

"Hey, buddy, that's a nice fish!" commented the angler just below me. "You ain't losin' no time gettin' yourn!"

As he spoke there was a wild splashing and commotion below him and both of us lifted our eyes to see the third man backing up and dragging a large trout up over the embankment. The tip of his rod was broken just about in the middle but fortunately his hook was securely imbedded in the trout's mouth and he landed the fish safely.

"Doggone it!" exclaimed the old chap disgustedly." I was afeared that there rod was all dried out. It's been up in the attic ever since Frank went to Lancaster to work and that attic gets consarned hot in the summer." He was talking more to himself than to us but we sympathized with him as he gazed ruefully at the broken rod tip.

"Well, darn it, I'll just fish with the butt and the middle section," he said, and he threaded another worm on his big hook and threw it out into the pool.

I hadn't moved from the place where I had caught my first trout, not wishing to crowd the two anglers who had been at the pool before me. And it was well I hadn't gone elsewhere for I caught another nice trout within the next five minutes.

Attracted by the action had by myself and the man who broke his rod tip, a young fellow moved from the pipe hole downstream toward us. He was one of the two men of the group who had up-to-date tackle and was better dressed than the others, but his ideas of sportsmanship did not coincide with his appearance for he virtually elbowed me to drop his worm-baited hook almost exactly where I had just cast my redfin.

This burned me up but I didn't say a word as I retrieved my minnow and moved cautiously around the two fishermen below me to seek a fishing place farther downstream.

I caught a couple more trout as I fished all of the likely-looking bits of water for a quarter of a mile below the road. Then I came upon Jack. He was fishing in the largest pool I had yet seen in the stream and had the place all to himself.

"How are you doing?" I inquired,

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FISHERMAN'S PARADISE. This photo of the Spring Creek project won a first prize for R. W. Hanson, Loyalhanna, Pa., in Outdoorsman Magazine photo contest.

Fisherman's Paradise Opens May 18 for '51 Season

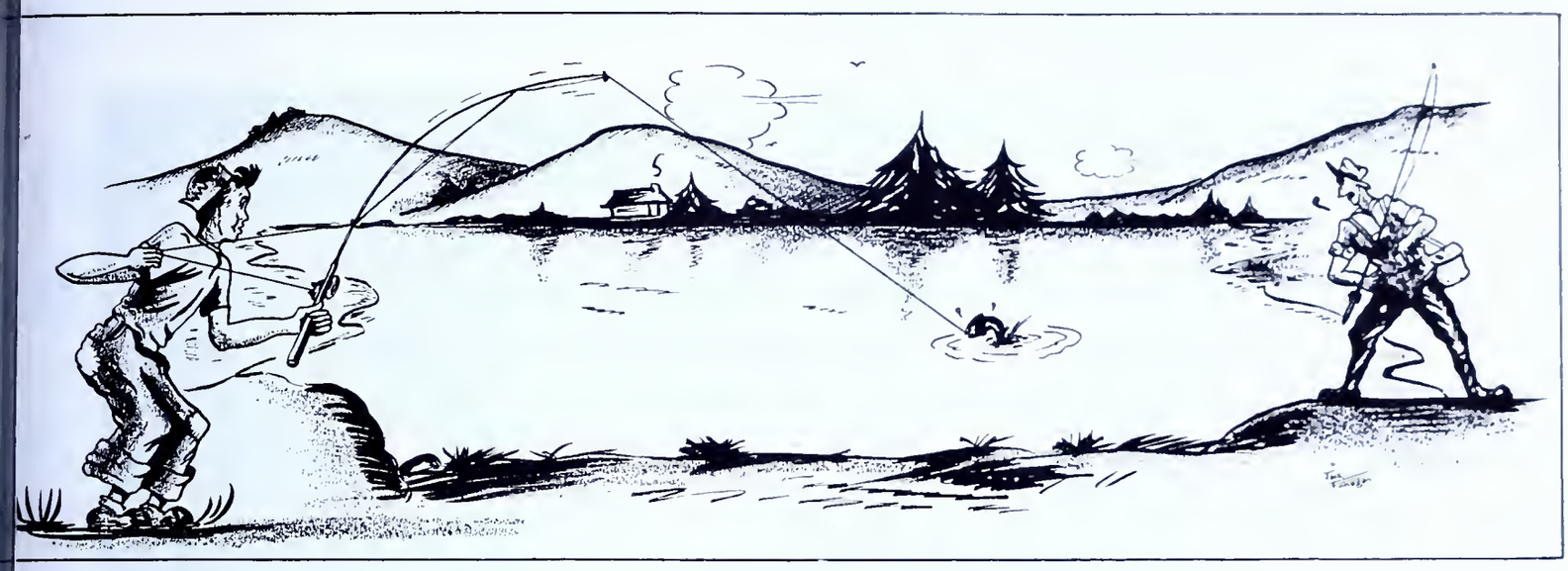
The Big Parade lines-up for a crack at the Paradise.

THIS famous Pennsylvania Fish Commiss angling project may prove more popular t year than last when a record 34,796 angl registered at the Paradise. Largest trout l season caught by a woman was a 25-inch ra bow, weighing 76 ounces, largest caught by man was 24½-inch brown trout that tipp the scales at 112 ounces.

Last year 60 anglers were apprehend violating the rules and regulations governi the Paradise. It gets plenty rough when fish men won't play fair; the violators were fin immediately barred from the Paradise for t remainder of the season and in addition we unable to buy a fishing license for 1951.

It all adds up to what Izaak Walton believ "No life, my honest Scholar, no life so hap and so pleasant, as the life of a well-govern Angler."

(REGULATIONS FOR THE 1951 SEASO APPEAR ON PAGE 21)



Trout Technicalities

By G. Earle Thompson

Start spading the garden in Spring . . . . a few choice hackle are unearthed then the sneak to the creek. But it's the coming back, facing the good wife that's rough!

Illustrated by Jack Finnegan

' WAS spring, early spring, and the garden needed spading, the house ded painting, but the evening be- e a phone call had come from a nior member of the Rod and Gun ıb, whom I had promised to take ut fishing, so the garden and the nt job would have to wait until r. Besides I wanted to go out self and try some of my latest pur- ıses in the line of new fangled trout es, spinners, line, etc., recently quired, at a price. It was now urday morning, early, and since nior had not as yet made his ap- rance, I dug up some of the vege- le garden. At least I told myself t I was working on the garden ch, but in reality I was looking efully for earth worms while ging and had a tin can on the ound beside me into which I popped likely-looking specimen of bait t showed forth from the newly ned loam.

The worms were scarce, it being her dry in the ground, and soon nior came ambling along, as though had all the time in the world, while vas in a lather from impatience and m hasty digging. We tossed all the ning tackle and gear in the back t of the car, took off in the direc- n of Chester County to try the trout ng Valley Creek, a stream of which vas mighty fond, having fished there many years and stocked with oice trout. I remembered several ge and deep holes there at bends the creek and one in particular ere several years past I had caught me nice fish, during one of the club's nual outings. I was always just ort of a prize catch, however, as me one always had a fish about one ch longer than mine, to grab the ize. In short order we were at the eam and parked in a space under large tree. Quickly we noted that other fishermen were at this spot we started to do our stuff.

All during the trip up through the country I had tried to impress the Junior Member with my experience, long years, and cleverness in the piscatorial arts and pursuits. I had even suggested modestly that he was extremely fortunate to be able to travel in such classical company on a fishing expedition. I knew all the answers and had the latest obtainable in equipment—lures, spinners, flies, rods etc. I had veritably ruined my extra finances to get all this stuff, and have to admit to being somewhat suceptible to high pressure in regards to fishing tackle sales. I hate to admit foolishness along these lines, so let us say "over-enthusiastic" at times. My wife has other names for it though.

I also told Junior about my vast knowledge of this particular Valley Creek, and how (I knew choice holes, riffles and bends in the stream practically unknown to other aspirants.) Needless to say by the time we arrived at the fishing grounds he was sold. I suppose added to it all was the fact I happened to be secretary of the club.

He swallowed it all in with goodly gulps, every last drop and I really believed I was teaching him something that would increase his powers in the gentle art of fly casting, bait casting and the like.

After about two or three hours of disgusting luck, the lad, patient as all getout, finally asked when we expected to catch some trout. I wanted badly to answer that question myself. However, we moved along and I tried my best to land something. Finally others came on the stream, and the competition did not add much to the fun. At one deep hole we both baited up with worms as a final gesture. Previously it may be said, we both were good sports and tried all sorts of flies, wet, dry, all colors and sizes, but with no luck whatsoever.

(This hole looked good. It was deep and at the downstream end of a fine riffle, with a large overhanging tree along the shore line.) Many roots and debris made good hiding places for prospective trout. In fact by this time I was about ready to settle for some good sized chubs or suckers. Hunger finally caught up with us and we got out our grub, sat down on the grassy bank to enjoy an outdoor repast. Stinging ants, the large black, husky variety crawled up our pants legs, stung or bit us, which ever they do. It was mighty discomforting. The ants came out of the sandy banks to give us a hearty welcome, and did their best to help consume our sandwiches before we could. A large water snake swam across the water and climbed the bank just in front

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MISS FISHERMAN'S PARADISE 1951.

'ISHERMAN'S PARADISE WAS *Never* LIKE THIS

Photograph of "Miss Fisherman's Paradise" by
GEORGE GORDON
Official
photographer for the
Pennsylvania Fish Commission

Although Fisherman's Paradise is ell known throughout this state and i other states as well, it was viewed i a new light recently in Pittsburgh. ie occasion was the Parade of Units, part of the three-day state convenon of the Hairdressers and Cosetologists Association which was held ere the latter part of February.

From all over the state came memers to attend this meeting which inuded hairstyling contests and the dvance showing of new hair styles by merica's leading stylists. One of the ost popular features of this convenon each year is the Parade of Units which each participating unit enters model portraying something of inrest in its particular locality. Of ourse, at such a convention hair yling is quite important but in this rade the costume too is judged.

This year the Centre County unit ose Fisherman's Paradise as its eme and in advance of the convenon sent in to its headquarters the ory of Fisherman's Paradise. Then llowed weeks of costume making. rout of various sizes were made by and of net, wire, and hundreds of ari-colored sequins; and these in turn ere sewn on the basic dress or made be used as other ornaments about e costume.

The Parade of Units was held on unday, February 25, in the Pittsurgh Room of the Hotel William enn before a large audience of assoation members and numerous movie, levision, and press photographers.

Miss Fisherman's Paradise 1951 was resented to the audience as the narator told the story of Fisherman's aradise. She was attired in a ballerina-length, strapless gown of black net and taffeta, adorned with the many handsewn sequin trout. On each of her elbow-length gloves was a fish hook made of sequins. In her hair was a large sequin trout and even her earrings were sequin trout! Around her eyes, as is now the fashion, there was a veil of coarse net, representing a fish net; and around her shoulders, more net. She carried a fishing rod from which hung her catch—a fabulous, sequin trout. Of course, since at this convention, hair styling is so important, the model's hair was styled expressly for this outfit.

All of the work was done on this outfit by the members of the Centre County unit of the national organization, both hairdressers and owners. The model, lovely Kay Palmer of Clearfield, Pennsylvania, is a hairdresser herself, employed by Alice and Don Hairdressers, State College; the hair styling was done by Don himself.

The results of this competition in the Parade of Units have not as yet been announced; however, the one receiving first place will be shown in Chicago at the national convention to be held there this coming summer.

The Fish Commission wishes to thank the Centre County Hairdressers and Cosmetologists Association for the excellent publicity it received and for allowing us to use this publicity. Miss Kay Palmer and Mr. Don Ruble were most cooperative in helping us to obtain all the pictures we wished to take and in giving us the material for this story.

Fisherman's Paradise was *never* like this—so glamorous!

Trout Technicalities

(*From page 9*)

of us. Junior poked his rod at him and it left some deep teeth marks in the cork handle before it slithered away. The sun was now terrifically hot, and as the perspiration broke out on the back of my neck, after partaking of some overly warm thermos coffee, the mosquitoes, black gnats and what have you in insects, held convention on my clammy skin.

Junior by now had finished his lunch and after watching the snake disappear among the roots, wandered upstream in search of some more fishing. I was exhausted, and wondered if the boy had noticed my condition, as I had told him maybe a little too much about my prowess. With it all I relaxed and was soon dozing on the grass; ants, spiders, flies, snakes et cetera, forgotten for the time being at least. Suddenly I heard a sharp cry. Was I dreaming or what had happened. It was Junior. He was shouting and gesticulating like a madman suddenly bereft of his senses. I ran, the best I could for an old fellow, up the creek to him and there he was, with the prettiest sixteen inch rainbow trout I have ever seen come out of Valley Creek. He had caught it in my favorite hole on a spinner and a piece of meat gristle left over from his beef sandwich. He said he had run out of worms and was too lazy to return down to me. Several other fishermen came by and praised the fish. He really was a fine specimen and probably the best one landed near there that season.

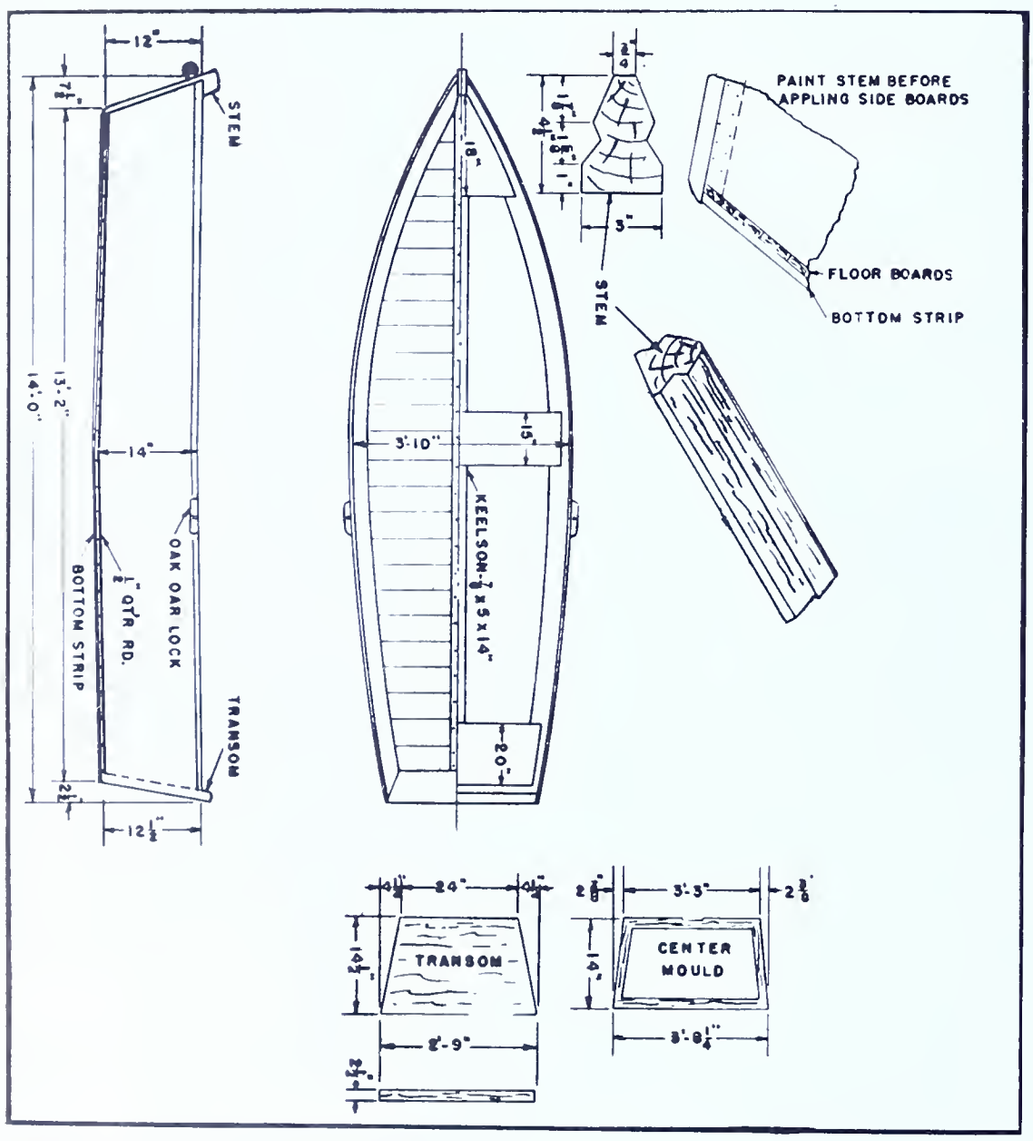
That ended the day for us and as we walked back to the car I noticed that my arms and neck were burning briskly from an overdose of early spring sunshine. Also some very unwelcome poison ivy pimples were forming on my arms which helped along the discomfort of the sunburn. I had lost two of my new lures, my feet were wet where I slipped down the bank earlier in the day and landed in the water, my head ached from the bright sunlight since I had forgotten to bring my sun glasses along. I was tired out too and with no fish, felt mighty low. Also Junior looked at me in a funny way but said little. When we approached the car, there it was—a flat rear tire. Junior did help me with that but he could not comfort my mind. I had indeed all but guaranteed to show him how to fish. Now I was nothing in his eyes.

(*Turn to page 18*)

BUILD A BOAT AT HOME

If the pocketbook is mighty low and you can't afford a "boughten" craft, here's one you can build right at home with a minimum of time, materials and expense.

Photos and Story by Don Shiner



List of Necessary Materials

Side boards .... 2 pc. 7/8" x 14" x 14' Pine

Bottom .....Roughly 50 Rng. Ft. 7/8" x 6" Pine or Cedar

Transom .....1 pc. 1¾" x 16" x 36" Red Wood

Stem .....1 pc. 3" x 4½" x 20" Oak or hard Pine

Keelson .....2 pc. 7/8" x 6" x 14' Pine

Seats ....1 pc. 7/8" x 12" x 12' Pine

Row Locks .....1 pc. 2" x 4" x 16"

Trim .....2 pc. ½" Qt'r Rd. 15' in length

Major Hardware. 1¾" No. 8 Flathead wood screws.

Photo Steps of Procedure

(1) Fasten both sides to the stem. Be sure they fit properly to the stem to insure a water tight fit.

(2) Check to see that each side is bent at the same angle. Here the hull has just been completed. Next comes the floor.

(3) Use two screws to fasten each floor board in place. Allow a thickness of a dime between each board if the boat will be kept in the water for months on end.

(4) After the floor has been completed, fasten the keel and keelsom in place. This gives added strength and protection to the floor.

(5) Fasten the seat in place with screws. Be sure to make the seats large enough so they are comfortable!

(6) Finish the boat by giving it two coats of paint. The ideal fishing boat is now completed and ready to be launched in the favorite lake or stream.

Here are the specifications and plans one of the finest engineered, smoothest ru ning skiffs that was ever designed for fishe men! It is the most ideal boat for fishi and its low cost, simple construction a ruggedness, makes this flat bottomed sk the choice of thousands. Dollar for dol it is one of the best boat investments a angler can make. It is easily construct from local materials and anyone who c use a saw, screw driver and hammer c build one in a course of a day or two.

The 14 foot flat bottomed skiff which described here is ideally suited for use sheltered ponds, lakes and rivers of Pen sylvania where the waters do not become t rough. It can be fitted with an outboa motor from 3 to 5 horse-power and is a ve highly maneuverable boat. It is so eas constructed with these plans, the desire f owning a boat can become a reality.

To build this craft, begin by cutting t 'V' shaped stem from the oak plank. T two 14 inch sides are then cut on a slig taper, fitted to the stem and fastened wi long screws. The Center Mold is plac between the sides and they are then be around the Mold, fastened to the transom form the skiff's hull.

Use a heavy piece of red wood or son similar wood for the transom and if a mot is to be used on the boat, the transom shou be at least 1¾ inches thick. Cut this pie with slight angles on each side so that t boat sides flare outward at the top.

The floor boards can be laid lengthwise an fastened to chine strips spaced at variou intervals within the hull, however, to utili short pieces of lumber, the boards can b placed across the sides and fastened as show in the pictures.

If the boat is to be kept in water for week or more, the flooring most *not* be place tightly together since the boards will swel Many boat builders allow a thickness of dime between each board giving them ampl room to swell shut. Calking compounds ca be spread between the floor joints to provid a water tight fit if the boat is intended fo dry storage after each outing. A one piec bottom can be made from plywood (water proof) and this will greatly reduce the weigh of the boat making it ideal to carry on trailer.

Next, add the kelson and keel strips alon the bottom. These are the strips that ru lengthwise in the center of the boat, bot inside and outside along the bottom fron stem to transom. Complete the boat b adding the seats, the oarlocks, an eye bol for the chain and two coats of paint. Th cost of this skiff can be kept downward o $35.00.

This boat will give many years of servic and will carry the fisherman to his favorit angling spots?

(1)

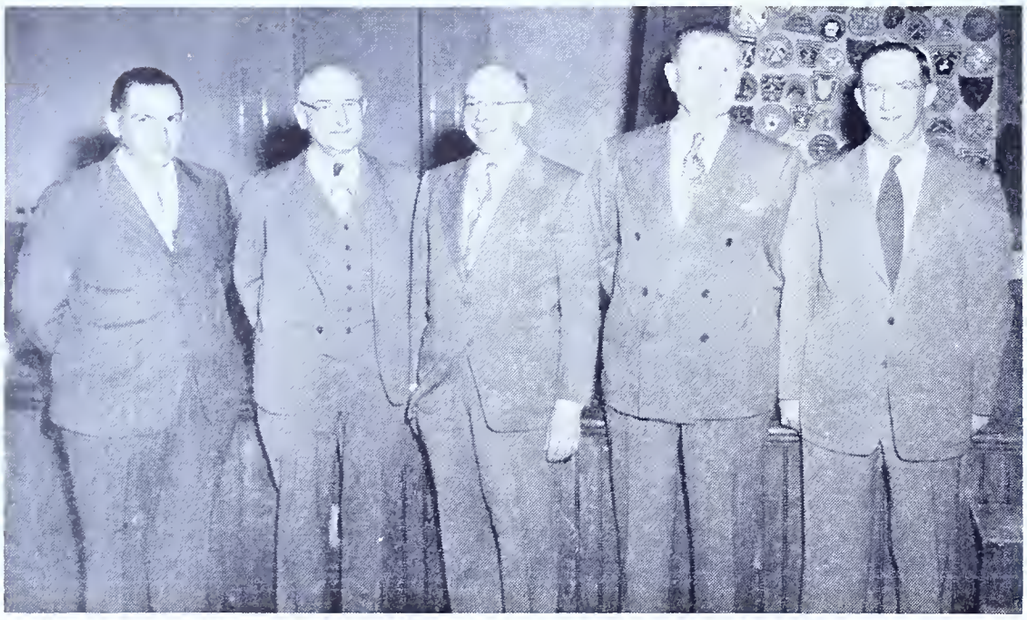
(2)

(3) ↑

(4)

↓(5)

(6)



STATE OFFICIALS AT YORK FEDERATION DINNER. Attending the Annual Dinner of the York County Federation of Sportsmen's Clubs held recently were, L-R.: Ralph McGuigan, President of the York group; George Weber, York County Agent, Agricultural Dept.; C. R. Buller, Chief Fish Culturist, Pennsylvania Fish Commission, speaker; Thomas Frye, Director Pennsylvania Game Commission, also a speaker, and Representative George Goodling, toastmaster.

LEHIGH GETS STOCKING of trout by, L-R.: Rudy Schaefer and Deputy Willard J. Reuther, under supervision of District Warden Keith Harter, Lackawanna County.

NESSMUK ROD & GUN CLUB ELECTS OFFICERS. Pictured at annual dinner recently in Wellsboro are L. to R.: Robert Suhr, delegate; Louis Stevenson, delegate; Charles Yahn, president; Walter Bailey, vice president; Louis Corwin, treasurer and Kermit Moore, secretary. 110 members and guests attended the dinner.

CLUB NEWS

Delaware Co. Field & Stream Association, Inc.

Our Twelfth Anniversary meeting at the Columbus Center in Chester, Pa., was a huge success. With approximately 800 members in attendance the hall was comfortably packed. Thanks to Mr. George Marnhout of Bryn Mawr we were treated to some very fine color film of Big Game Hunting in Alaska as well as cleverly executed repartee concerning the experiences of the amateur big game hunter.

Mr. Kochenderfer, an agent of the Federal Bureau of Investigation, was our guest speaker and his remarks concerning the requirements and activities of the F.B.I. were educational as well as highly entertaining. Other guest speakers included: H. R. Stackhouse of the Fish Commission, Morris Stewart, of the Game Commission, Dan McPeek, local Game Protector, and Horace Pyle, local Fish Warden. Their remarks covered an overall picture of state hunting and fishing matters from the viewpoint of the game and fish commissions. Jack Meehla, "Club News" Editor, complimented Bill Everman, Mr. and Mrs. Harold DuBois, Horace Peterson and Jack Martin of the Interboro News for their cooperation in the publication of the enlarged edition of the "Club News." Jack also brought a message from our old friend, Zeke. Entertainment Chairman, Elwood Casey, spoke briefly of the entertainment possibilities for 1951.

1951 Committee Chairmen

President Manning announced the following committee chairmen for the year 1951: Henry Crook, Ways & Means; John Crockett, Game; Nick Young, Fish; Howard Dubois, Membership; Harry Sauers, Youth Education; Paul Herreran, Conservation; Horace Peterson, Publicity; Elwood Casey, Entertainment, and Jack Meehla, Club Comptroller.

New Officers for Mountain Field and Stream Club, Berlin, Pa.

President, G. L. Engle; V. Pres., D. J. Boyer; Secretary, Grant Walker; Treasurer L. H. Kimmel. The secretary's address is R. D. 1, Central City, Pa.

Ellis Darlington Named President of West Chester Fish & Game Association

Long interested in the outdoors, the new president for 1951 is expected to lead the club on an active and prosperous year. The "Sporting News" official publication of the club runs a box thanking land owners along the streams and listing their names. At the bottom of the box is, "Let's Repay Courtesy With Courtesy."

The Crow Foot Rod and Gun Club, Wilkesburg, Pa. awards brassards to members whom by their activity and attendance at meetings etc., warrant them. The plan has proved popular under the direction of Henry Snyder.

PHILA. "IKES" PROJECT HELPS VALLEY FORGE VETS

Project featured by the Dr. William H. Moore Memorial Chapter, Izaak Walton League of America, Philadelphia, Pa. has members rounding up all surplus USABLE fishing equipment for the servicemen at Valley Forge Army Hospital. On a coast-to-coast broadcast over Stoney McLinn's "Sports Parade," the "Ikes" asked that other Chapters and all sportsmen's organizations throughout the country join in the project so that servicemen at Valley Forge and other hospitals would have fishing equipment.

Some of the wounded veterans spoke over the radio and while on the air expressed their appreciation to the Pennsylvania Fish Commission for their interest in them.

VALLEY FORGE VETS ON THE AIR. Feature project of Dr. Wm. Moore Memorial Chapter, Izaak Walton League of America, Philadelphia, Pa., had Stoney McLinn noted Editor of the Sports Parade interview veterans from Valley Forge Army Hospital on Coast to Coast network recently. L-R.: Sgt. Baruch Bombay, Providence, R. I.; Andrew W. Hutton, Chairman, Chapter Collection Committee; Stoney McLinn, Editor "Sports Parade"; Wm. F. B. Koelle, President, Dr. Wm. H. Moore Memorial Chapter, IWLA; Sgt. Joseph Adler, Special Service Valley Forge Army Hospital; Pvt. Leonard Bendesky, Atlantic City, N. J.; Corp. Richard Dixon, Woodland, Pa.

Kane Fish & Game Club members on trout stocking jaunt this Spring. Trout were from Tionesta Hatchery. Photo by Cal Harding.

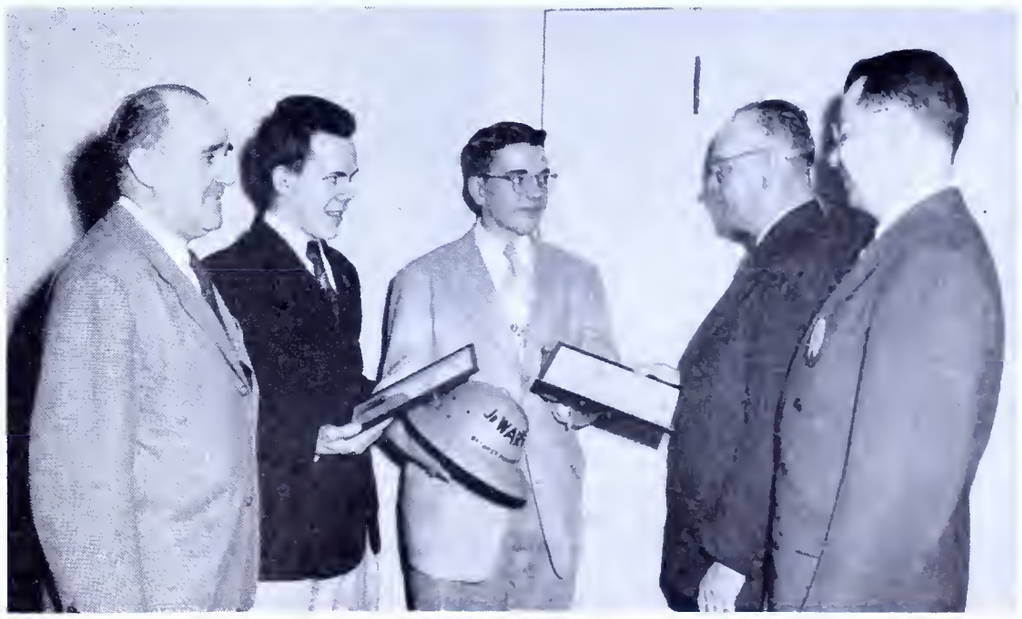
State Fishing Awards Presented

The Co-Champion Junior Fishing Kings of Pennsylvania as determined by Better Fishing Incorporated of Chicago are awarded their framed certificates citing them as the outstanding boys of the state during the 1950 season. Both these young men come from the Capital City of Harrisburg and were regular attendants at the Junior Fisherman's Paradise conducted by the Optimist Club of the City of Harrisburg in cooperation with the municipal authorities of the city. The project has been established on the waters of Italian Lake in North Harrisburg.

In the photo at right second from right, J. Allen Barrett, Director of Public Relations of the Pennsylvania Fish Commission acting for the Commission on behalf of Governor John S. Fine, makes the presentations to Donald Shaffer, second from left and Gary Sowers, third from left. Mr. Maxwell, President of the Optimist Club is on the extreme left and Mr. Kenneth Guildford in charge of the youth program of the Optimist Club, is on the extreme right. The ceremony was performed at a mid-day luncheon in the Harrisburger Hotel on Thursday, March 29. In the course of the presentation Barrett paid a warm tribute of congratulations to the city of Harrisburg and to the Optimist Club for the fine program established on Italian Lake, lauding the good results being developed among the youth of the state's capital city.

VANDALISM AT DORMANT-MT. LEBANON SPORTSMEN'S CLUB, INC. Acts such as these to private properties along streams results in shrinking the amount of land still open to public fishing.

When man invented money, he thought he had solved most problems of economics. Then someone came along and threw a monkey wrench into the works by inventing credit.



State Fishing Awards Presented.

Our Anglerettes — FOR AND ABOUT MILADY ANGLER

By ELLEN A. DIETRICH

"Gracious, Snakes Alive!"

'Twas June. The weather was exceedingly warm.

Anglerette Ilene Dee had promised to take neighborhood youngsters on a fishing trip bright and early the next morning. A nearby trout stream had been treated to its mid-season stocking of healthy brownies from the Pennsylvania Fish Commission. In order to afford the fish an opportunity to "scatter around" and become acclimated in their new environment, members of a local rod and gun club had posted "No Fishing for Five Days" signs along the stretch of stocked waters and, in accordance with law, had publicized the closing of the stream in the local newspapers.

Youngsters and oldsters alike had been counting the hours from the stocking until 5 A. M. of the day when it would be legal to try their luck on the creek with their favorite assortments of artificial and natural lures. Tomorrow was that day.

Through the open windows, Ilene could hear the youngsters, as they excitedly gathered in groups to exchange ideas on what to wear, what to take with them for lunch, etc.—and to caution each other not to forget to *dig worms* for bait.

Ilene had enlisted the aid of her husband and together they had gathered some night crawlers the preceding evening. For, from past experience, Mrs. Dee knew that, no matter how many worms the junior fishermen gathered, they'd exhaust their supply hours before their fishing day was over. Large, healthy night crawlers—those long, juicy ones—would go far toward meeting the emergency.

It might not be amiss to add here that over a period of years the Dee hubby-and-wife worm-gathering team, equipped with flash lights and containers, could account for many, many worm-gathering attempts—and plenty of worms to show for their efforts—for fishing expeditions of youngsters and oldsters, too. On this occasion, though, they had had their troubles. 'Twas late in the worm-procuring season, to begin with. Unusually hot weather, more fitting for August than June, had increased their difficulty. They had thoroughly watered huge expanses of lawn area and had waited hours for those fishing worms to work their way out of the ground. At last, a few dozens did come forth; whereupon, the Dees, almost as quickly as they flashed their lights on the shiny bodies, had noislessly dived in their direction and, capturing them one after another, had placed them safely in containers. Mr. Dee had later transferred them to a box of wet leaves which he had placed in the basement.

Aided by faithful Mandy on the day of this narration, Ilene was completing her two-months—over due spring house cleaning. By mid afternoon she could not help acknowledging, with a sigh, how glad she'd be to go out among the green trees and grass and the running water of the next day's adventure with the neighborhood youngsters.

"Gracious, it's late. I must run up to the postoffice," Ilene told Mandy. "If the groceries arrive before I return, just put the butter in the refrigerator."

Our anglerette did not require much time in which to dispose of her business at the postoffice and soon she was on her way back home. As she approached the house, an unusual scene greeted her gaze. There on the front porch sat Mandy, her eyes wide with terror and huge beads of perspiration covering her forehead.

"Why, Mandy, what's wrong?" cried Ilene Dee.

At first poor Mandy was literally tongue-tied; but finally she managed to tell Mrs. Dee that, just as she was about to leave for the afternoon, the groceries had arrived and she had attempted to put the butter in the refrigerator, as Mrs. Dee had instructed.

Senior and junior anglerettes, as well as anglers, assist with stocking of Pennsylvania streams. Atop a Fish Commission truck, is Bill Ingram, Jr., of West Chester; while standing beside the truck (left to right) are: Bill's son, William, 3rd, Bill's wife, Edith, and daughter, Helen, as they aid Chester County Fish Warden Horace Pyle with trout transfer.

"Ma'am," she continued, "I knows that you and yore husband is very fond of wild animals and birds and all kinds of wildlife. And I is, too, Missus Dee. But, honest, ma'am, there jest ain't room enough in one house fer me and them there garter snakes!"

"Garter snakes?" puzzled Ilene.

"Yes, in the ice box," moaned Mandy. "One of them critters fell on the floor before I could get the ice box door closed and I runs out here so it couldn't ketch up with me!"

"No, Mandy, there are no snakes in the ice box. You probably saw the worms for tomorrow's fishing trip."

"Worms! Why, some of them things are almost a foot long!" replied Mandy, apparently not at all convinced that danger did not lurk inside.

"Night crawlers do stretch out quite long when they are cool and moist," soothed Mrs. Dee. "Mr. Dee left them in the basement last night, but when I peeped at them today they were very warm down there and I was afraid they'd not remain alive 'til tomorrow. I transferred them to a clean bowl, covered them with waxed paper and punched small air holes in the waxed paper. I did, though, place a rubber band tightly around the waxed paper before I put the bowl in the ice box. Did you take the waxed paper off the bowl, Mandy?"

"I should say I did not! I jest opened the ice box door and there they was, draped all over everything!"

Now it was Mrs. Dee's turn to express consternation. She quickly entered the house, went to the refrigerator and opened the door. Surely enough, the several dozen night crawlers had made their way through the sheet of waxed paper with which she had so carefully covered the bowl and there they were—just as Mandy had described them—"draped all over everything" in the ice box.

Mrs. Dee said "Ugh!" with a shrug. "My tasty cold supper! The stores are closed now and Mr. Dee will be home at any moment!"

* * * * *

As the Dees seated themselves in a restaurant that evening, the first time they had done so in months, Mrs. Dee sheepishly reflected: "Those night crawlers have always seemed quite meek and weak and motionless in a worm can with leaves. But, after years of experience gathering them, I suppose I should have remembered that they do tunnel their way out of the ground; and I should have realized, therefore, that they'd hardly find a mere piece of waxed paper a difficult obstacle to break through."

PREDICT RETURN OF RECREATIONAL AREAS ON YOUGHIOGHENY

Progressive improvement over the past few years in the character of the water in the Youghiogheny River in the Southwestern section of the State brings suggestions from some quarters of the possibility that areas along that river may again be established as resort and recreational centers for which they held a high reputation quite a few years ago. The decided improvement is seen in the record of analyses made for the Sanitary Water Board which is directing the Clean Streams Program. The tests which are made by the Bureau of Engineering, State Department of Health, which executes the Clean Streams program, and data of the U. S. Army Engineers office in Pittsburgh from which calculations are made to show the acid discharged to the river on a tonnage basis per year come up with identical findings. This discharge figured on an average daily basis annually has dropped from 870 tons for 1937 to 185 tons last year. In more simple form the tests show that the acidity has decreased from an average of 73 gallons of acid to one million gallons of water for the period from 1930-39 to an average of 37 gallons of acid to one million gallons of water during the 1940-49 period.

The Youghiogheny River, a tributary of the Monongahela River, originates in West Virginia near the Maryland border at an elevation of about 2,900 feet. It flows in a northerly direction through Maryland into Pennsylvania to the junction with the Casselman River at Confluence and then follows a northwesterly course to join the Monongahela River at McKeesport at an elevation of about 715 feet. The river has a total length of 123 miles, 83 miles of that distance being in Pennsylvania. The total drainage area is 1,732 square miles of which 1,265 square miles are in Pennsylvania embracing portions of Fayette, Somerset, Westmoreland and Allegheny counties.

Along its course in this State the river serves as a public water supply at nine different points between Connellsville and its confluence with the Monongahela River. The principal supply furnished is to the Municipal Water works of McKeesport. The vast improvement in the character of the water has caused McKeesport to turn to the Youghiogheny River from the Monongahela River for the greater quantity of its water.

Additional confirmation of the improved condition of the river came from biological studies made by the State Fish Commission which resulted in the decision in 1948 by the commission to stock the river from Connellsville to Layton with catfish and sunfish. The initial stocking was successful and a stocking program has been followed each year since that time, suckers having been added to the list. If the river shows continued improvement, which recent tests show to be the case, Executive Director C. A. French of the Fish Commission states it is possible that stocking with bass will be tried with this year's distribution.

The vast improvement in the water of the river brings to the communities a supply of safe water, the return of fishing, and of great importance, the opening of an area for industry which can be assured of an adequate supply of clean water.

ON THE POLLUTION FRONT

Several factors are pointed to as contributing to the come-back being staged by the river which was one of the key points in the exploration of the Western part of the State and which served Braddock well on his famous expedition. Up to the present century Ohiopyle, along the river, was a famous resort and recreational center. The beauty of the falls was a great attraction. Several large hotels did a thriving business. Excursion trains were run there from Pittsburgh taking on people along the route.

As mining developed along the Casselman River, Buffalo Creek, Elk Creek and a number of other tributaries near Myersdale, the streams and the river became heavily polluted with acid mine water. This brought the downfall of the resort and recreational areas.

DYNAMITE BLAST CAUSES WATER SHORTAGE AT GREENSBURG

The outbreak of "mountain law" in Salt Lick Township, Fayette Co., as a result of the court injunctions issued some time ago restraining the operation of coal mines in that area because they would cause pollution of streams used for public water supplies, brought from the Department of Justice the warning that the law will be enforced to the limit. State police have been assigned to the region with orders to arrest any person who is operating a mine without a permit from the Sanitary Water Board. Two arrests have been made on that charge—Domer Layman, son of Emory Layman, owner of a mine under injunction, and allegedly in operation, and Donald E. Geary. Both were held in $500 bail for a hearing under the criminal section of the Clean Streams law.

Melvin Leighty and his wife, Lola, of Indian Head, have also been arrested charged with throwing a stick of dynamite at a three-man police patrol. The dynamite exploded about 75 feet from the policemen. It is said that a woman fired three rifle shots into the air to persuade patrolling policemen to leave her property. A dynamite blast tore out a section of the 36-inch pipe leading from the Mountain Water Company reservoir causing water shortages in the Greensburg area.

Injunctions closing mines in the Indian Creek Valley were issued several months ago by Judge W. Russell Carr of Fayette Co. upon action brought by the Sanitary Water Board under the Clean Streams program.

SUSQUEHANNA WATERSHED COMMUNITIES ORDERED TO GET SEWAGE PLANTS UNDERWAY

Orders to construct sewage treatment works by a specified date have been issued by the Sanitary Water Board under the Clean Streams program to the remaining seven communities on the Susquehanna River watershed which had not been given such orders at the time of the original action last June by the Board. At that time the Board issued orders for construction of sewage treatment works by all the communities on that watershed including those along the Juniata River in the cases where treatment works do not now exist, excepting the seven smaller communities to which orders have now been issued.

Orders to the original list of communities require construction by June 1, 1952. The orders to the last list of seven communities places the date at January 1, 1953.

The latest communities to receive the orders are Port Royal, Juniata Co.; Saxton, Bedford Co.; Mapleton, Alexandria, Orbisonia, Huntingdon Co., and Millerstown and Newport, Perry Co.

MORE PERMITS ISSUED FOR SEWAGE INSTALLATIONS

Permits approving plans of sewerage installations and authorizing construction have been issued to additional municipalities and a State institution by the Sanitary Water Board of the State Department of Health in the furtherance of the Clean Streams program.

The latest permits issued are to Catasauqua, Lehigh Co., sewage treatment works; Dixmont State Hospital, Kilbuck Township, Allegheny Co., sewer modifications and additions and sewage treatment works; Roaring Spring, Blair Co., extensions to sewer system; Monaca, Beaver Co., extensions to sewers; Harmony Township, Beaver Co., extensions to sewer system; Susquehanna Township Authority, Susquehanna Township, Dauphin Co., extensions to sewer system and lift station; Sharpsville, Mercer Co., extensions to sewer system; Benzinger Township Authority, Benzinger Township, Elk Co., sewers to connect with the sewer system at St. Marys to serve the Lynchville area; Conway, Beaver Co., extensions to sewers; Millcreek Township, Erie Co., extensions to sewer system which connects with Erie treatment works.

WYOMISSING AND LITITZ AWARD CONTRACTS FOR SEWAGE PLANTS

The Sanitary Water Board has been advised that the Wyomissing Valley Authority has awarded a contract for $1,194,394 for the construction of a sewage treatment plant of complete treatment to serve Wyomissing and West Reading. The new plant will also receive the wastes for treatment from a number of the industrial establishments in those municipalities.

The Lititz Authority also recently awarded a contract for $1,499,194 for the construction of sewers and a sewage treatment plant of complete treatment for the borough of Lititz, Lancaster Co.

These communities represent additions to an increasing list of municipalities which have awarded contracts and which are constructing sewage treatment works under Pennsylvania's Clean Streams program.

Fishin' Under Difficulties

(*From page 7*)

and Jack replied that he had just about as many trout as he desired.

"The only way to meet this opening day situation," commented Jack, "is to find yourself a likely-looking pool and monopolize it. This is the only place I've fished thus far and you can see I've done all right," and he grinned that crooked grin of his as he lifted the lid of his creel and gave me a glimpse of the half dozen handsome trout on a bed of green moss.

"A half dozen or more of these eager beavers have been along here this morning but I haven't been too friendly so they moved right along and let me have this place pretty much to myself." He gave this explanation after I told him about the rude young chap who had pushed himself to my side upstream after seeing me catch fish.

In reaching for an apple in his jacket pocket Jack's fingers became entwined in his key ring and the keys fell at the water's edge. That reminded me of an experience I had had the summer before along this same stream when I had been fishing alone in the evening, after dropping Doc off a mile down stream so he could fish up the stream to the place where I told him I'd park the car.

"I'll put the car keys under that old stump back of the car," I explained, "so if you quit fishing before I put in an appearance you can get into the automobile."

As it happened, I knocked off fishing before Doc did and went to the car for a couple swallows of cool chocolate milk which I had brought in a thermos bottle.

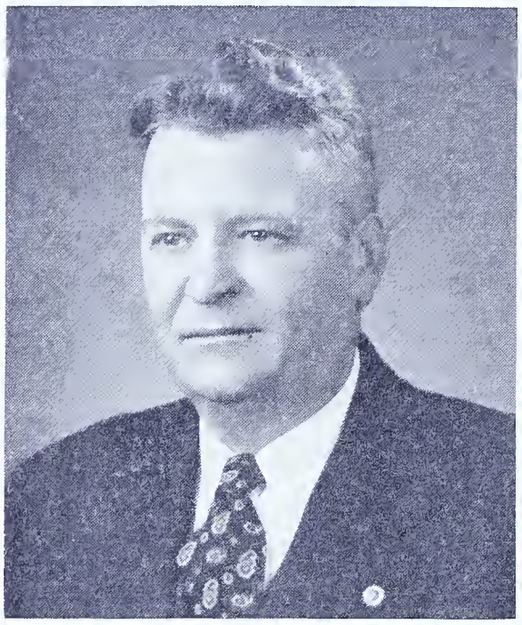
To my consternation I couldn't locate the car keys when I thrust my hand in the hole at the base of the rotten stump. They weren't where I had placed them, and after searching in vain for them for about five minutes I had visions of Doc and I stranded for the night. Indeed I didn't know just how long we might be hung up, for that isolated stream head is fully 12 miles from the nearest human habitation.

Just before Doc put in an appearance I came upon the keys a good arms' length below that rotten stump. Apparently a ground squirrel or some other animal had been working among the roots of the stump while we fished and had dislodged my keys so they fell a couple of feet below the place where I had placed them.

Then I remembered that two young couples who had come to a hunters' lodge in this self-same area two winters before for a week-end and had been stranded there for a week when a heavy snow fell had been the objects of an intensive search by friends who became alarmed upon their failure to return home when expected.

I explained to Jack that my experience with the car keys and the hollow stump had taught me a lesson and that now immediately after purchasing a new automobile I wire an extra ignition key to the frame of the car under the trunk so if I lose the key I ordinarily carry I'll have a spare one to fall back on.

Know Your Friend . . . The Warden



ANTHONY J. LECH
Schuylkill County

This coming August, Anthony Lech will be observing 20 years of service with the Pennsylvania Fish Commission as a Warden. Anthony lives in Schuylkill Haven, is married and has two daughters. He aids conservation in an area where there's plenty of action and much work to be done in the Clean Streams program. The wardens of the Commission are always on the lookout for pollution on streams of the Commonwealth.

ROSS C. BAILEY
Warren County

Born in 1889 in York county, Nebraska, this gentleman of the Fish Commission Force can no longer qualify as a "Corn-husker" because he moved to Penna. in 1903. Ross became a warden on March 15, 1932, is married, has 3 sons, 1 daughter and 7 grandchildren, resides in Youngsville. Popular with the sportsmen in his district, Ross is an aid to the cause of conservation in his area.

— RESPECTFULLY —

With this issue The Pennsylvania Angler pays a signal salute to the memory of Esther Weber, long identified with the circulation of the Angler; and who quietly passed away May 30, 1950.

Trout Technicalities

(*From page 11*)

a fallen champion. We said very little to each other on the way home, but I have observed that he goes out fishing with other fellows now. Perhaps he was the teacher on that trip. I know anyway, that I learned a lot of valuable things.

On arrival at home friend wife told me that I had missed some out of state visitors, which was very disappointing. Also someone had called about insurance but could not wait for me as he was just then buying a new car. So I lost that one. Also I was a lazy good for nothing for going out to play instead of working in the garden or on the house. I dejectedly put my tackle away and sat down to read the trout news in the paper. Maybe the bass season will be better this year. I consoled myself with that bright thought.

A Piscatorial Revival

(*From page 5*)

or nearly a score of years and never ;ot wise to the fact there were trout n it. I am almost ashamed to confess hat for two of those years we prac-ically made a biological survey of he stream and its environs. It was ıkin to having a stranger point out hat there was gold in your own back-ard.

This bit of digression shows the ›nigmatic nature of the water to which Bill and Burr and I were returning ıfter an absence of ten years.

We parked the car at the usual ›pot, under a clump of ancient hem-ocks just east of the mill ruins. Then, ıs though there had not been a lapse of a decade we trailed familiarly over he ancient bridge to make our way lown the east bank.

After crawling under an apparently ;imeless barbed wire fence we made our way through a clump of thin oushes to the first pond of the series. A hoarse, deep throated bellow greeted our approach.

"By golly, the bull!" cried Burr in amazement.

Bill guffawed. "More'n likely his great grandson."

Shortly, the beast showed up through the bushes on the other side of the pond and sullenly eyed us.

"By golly, he's the spittin' image of his great granddaddy," uneasily observed Burr.

"Aw, forget him," said Bill as he unconcernedly began assembling his outfit.

By the time we were ready to wet our baited hooks the animal gave a derisive snort and pushed through the ring of curious cows that had formed to watch what to them must have been queer antics.

"Boy, am I glad he's gone," breathed Burr as he swung his nightcrawler out into the middle of the pool.

"Maybe he's coming around to visit us," taunted Bill. "However," he went on, "I notice that he didn't cramp your style any."

"What do you mean?" calmly enquired Burr of his heckler.

"I mean that as usual you were the first to get your bait into the water."

Burr had no comment. Instead he watched his bait as it disappeared into the slightly clouded water. Less than five feet of line had slipped off his reel when he cocked his head in an attitude singularly reminiscent of the dog listening to his master's voice. I watched him intently since past experience showed the gesture to be an unfailing sign of action. My own bait sank unobserved into the uncertain depths of the little pond.

Even as that electrifying impulse indicative of a biting fish was relayed to my arm, Burr yelped, "I've got one!" With that he unceremoniously yanked out what looked like a rock bass as it streaked through the air to land with a plop on the short pasture grass. Bill and I crashed through in a dead heat. The three plump, square-rigged goggle eyes were about the size of the extended hand.

"Not bad, not bad at all," chortled Bill as he creeled the fine specimens.

We switched to artificials and they took everything we threw at them. Big, fluffy bucktails, sleek marabous, and small feather minnies were taken in stride. Indeed, they would even pursue the leader knots as they streaked through the water.

After catching nine fish we moved on to the next pond some forty feet away only to repeat the performance. On this sally we used ridiculously small trout flies, both wet and dry patterns, and the fish caught were all returned to the water.

Shortly after dusk we switched back to worms and began catching bullheads, nice succullent fellows that would fry to perfection. When we caught all that we could handily use (three apiece) we moved on to the largest pond.

Upon emerging from a screen of bushes we were greeted by an all-bovine welcoming committee viz a dozen or more cows and the lone bull. As befits their inquisitive natures they simply had to investigate.

For the most part, the cows were no problem, all of them gradually drifting off to go about the business of being cows. The bull, however, became problematical. "He's getting just too doggone smart," observed Bill as the beast stood nearby truculently pawing the earth.

At last Bill lost his patience and went after him with a sizeable club. A couple of resounding whacks caused the young animal to go galloping off with uncertain shakes of his head.

"I wish that bull was a year or two older," snickered Burr from the vantage point of a high and *very* steep bank.

"Yeah, we'd all be up there with you," growled Bill.

There was no further fishing. By the time the deafening chorus of the frogs and the toads had reached its crescendo, we gathered up our stuff and climbed the steep bank at our back for a short cut to the car. As we crossed the bridge we were arrested by a hoarse, throaty roar, plainly audible even above the amphibian choir. Distance lent it a strange appeal.

"He misses us," said Burr with feigned wistfulness.

Bill groaned tolerantly.

It had truly been an evening of nostalgic surprises.

The Boss of Red Bank

(*From page 3*)

securely imbedded in the thick cartilege. Then I noticed the chub swinging part way up the leader. Mak reached down and gently twisted the fly loose. keeping the net partially submerged. He moved up to the rock by the sand spring brook and then tilted the net so the Boss slipped over the rim.

Water still dripped from Mak's hat but his face glowed with contentment as he said, "Git back in ther an' be careful the next chub you take ain't got no strings attached."

TEAMWORK REALLY WINS

As the 1951 baseball season progresses, we note a great similarity between its progress and progress relating to matters of importance to the hunters and fishermen. Each baseball team is composed of *individuals;* and each individual is inherently *different* from other individuals on his team; he has different thoughts, different habits, different likes and dislikes and is every bit an individual in many other ways in his everyday life. It has been proved to us over years of baseball history, however, that the team that comes out on top is the team whose individual members work best *together* as a team when they play baseball. So it is with our sportsmen. Conservation of fish and game toward improved hunting and fishing—like all other conservation problems of life—is a huge task, with many controversial issues, many individual problems and just as many individual opinions as to solutions for those problems. But if the individual sportsmen all work *together*, they, too, can have a *winning team*. And they, too, can thus accomplish the *best* for the *most!*

Ellen A. Dietrich, Secretary

—In *Montgomery News*

WHAT'S NEW IN FISHING BOOKS

FISHING FLIES AND FLY TYING

By William F. Blades

Stackpole & Heck, Inc., Harrisburg, Pa. $7.50
234 Pages, Approx. 775 photos of flies

Books on flies and fly tying previously published will be compelled to move over, make room for a newcomer in the fishing library. The author, Bill Blades is not a closet tyer. He's an ardent fisherman, spends much time on the streams as well as participating in amateur bait and fly-casting events.

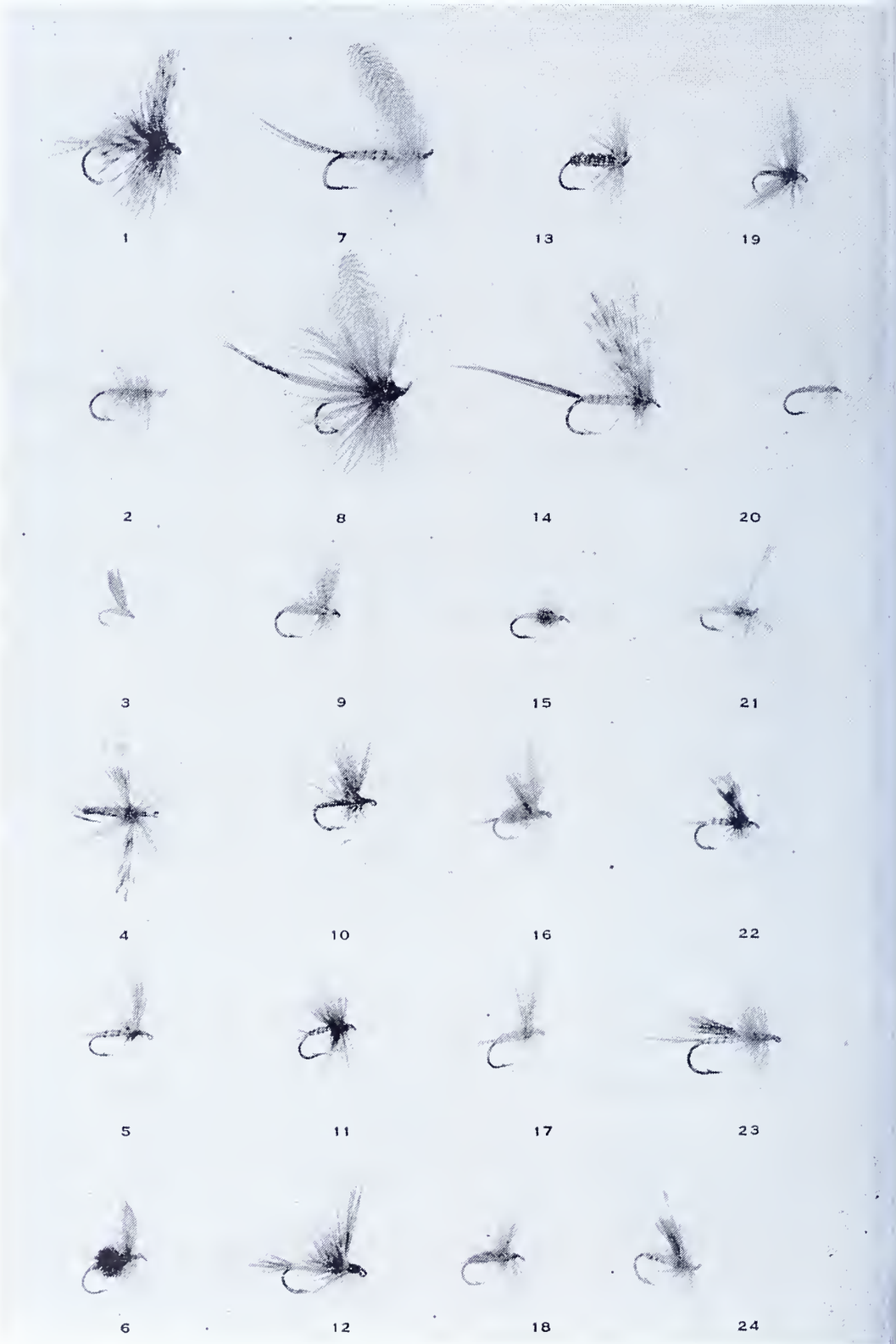
The book covers fly tying from every conceivable angle even down to the making of hair bugs for bass, a special department of fishing becoming more and more popular in American waters. Experts say the author's artificial flies copied from the May Flies, Stone Flies, Damsel Flies, Crane Flies, etc., and the varied nymphs are far superior to the general run of artificials. Many of these flies have been photographed with the natural insect, a feature that will interest the confirmed fly fisherman.

Even the beginner will profit from this work because the author gives the information necessary about tools, materials and equipment plus methods of tying all calculated to save wasted hours trying to figure the procedures out alone. Details in the book are extremely painstakingly presented, methods are in a step-by-step project, easily understood by the beginner as well as the advanced tier.

There is so much crammed into the 234 pages of this work that the reader must return to it again and again for reference. The entire gamut of flies and fly tying is advanced: ice fishing flies, wet flies, streamer flies, steelhead flies, dry flies, cork-bodied and hair-bodied bass bugs, salmon flies, plus a host of specialized palmers, sedges, poppers nymphs and mice.

One of the outstanding features of this volume is the number of pattern descriptions included. It is difficult for one to see just where the author has missed even a few, unless they be ancient or buried. And, Mr. Blades has been aptly described as an artist extremely skilled at literally painting with feathers. His book is warmly recommended for the sportsman's collection of top reference works in the field.

Don't miss the coming Summer issues of THE ANGLER . . . *surprises, new and interesting articles. RENEW THAT SUBSCRIPTION TODAY!*



Typical Plate of Dry Flies from the book, Fishing Flies and Fly Tying by William Blades. In sequence of numbers the flies in this plate are: 1—Flying Caddis Fly. 2—Ginger Bi-visible. 3—Ginger Quill. 4—Ginger Quill Spent-Wing. 5—Gordon. 6—Governor. 7—Green Drake. 8—Green Drake. 9—Grey Fox. 10—Greig's Quill. 11—Greenwell's Glory. 12—Grizzly Wulff. 13—Hackle Sedge. 14—Hackle Wing Mayfly. 15—Half Stone. 16—Hendrickson (Dark). 17—Hendrickson (Light). 18—Honey Dun. 19—Houghton Ruby. 20—Jenny Spinner. 21—July Dun Spinner. 22—Jungle Variant. 23—Killer Diller. 24—Kimbridge.

Typical Pattern Descriptions

No. 7. GREEN DRAKE
(F. M. Halford) 1886

Tail: Brown Mallard, four strands
Body: Raffia; ribbing, crimson tying silk. Ribbing, hackle ginger.
Wings: Wood Duck trimmed to shape.
Shoulder hackle: Grey hen dyed pale olive.

No. 11. Greenwell's Glory

Tail: Furnace hackle fibres.
Body: Yellow waxed tying silk; ribbing, gold wire.
Wings: Upright, made of blue dun hackle.
Hackle: Furnace.

BAD STREAM BEHAVIOR ROBS EVERYBODY OF GOOD FISHING WATERS

"When Few Abuse, All Lose" is ore than a catchy phrase. It is a arning to that small group of care-ss fishermen you occasionally meet ong the banks of our beautiful Penn-lvania fishing streams.

It is this small group of ill-mannered, nappreciative anglers who abuse the nerosity of our stream side land-vners by leaving a "mess of rubbish" ong the privately owned banks of ur fishing waters.

To acquaint our Pennsylvania rod-nd-reelers of this unnecessary and oughtless conduct, your Fish Com-ission has had 25,000 posters made for state-wide distribution. The acards, 14"x22" in size, were painted the hand process of silk-screen production by members of the Art lass at the White Hill Industrial chool, a correctional institution for ale juvenile delinquents.

The colorful cards are painted in ree tones. This means that the boys ere required to make 75,000 hand npressions to complete the project. he posters, which you no doubt will e seeing on one of your fishing trips, epict an angered land-owner nailing "NO TRESPASSING" sign to a ee near a fishing stream. On the bank eneath the tree is a pile of rubbish, (bags, beer bottles, etc.) carelessly left there by a group of thoughtless fishermen who disregarded the courtesy due the land-owner.

"When Few Abuse, All Lose," is carried in large letters across the top of the posters. At the bottom is lettered the warning, "Bad Stream Behavior Robs Everybody Of Good Fishing Waters."

The boys at White Hill, their superintendent Mr. Arthur T. Prasse and their instructor Mr. Harry P. Sweely are to be congratulated for their fine cooperation in aiding us to bring an end to the carelessness of some of our fishermen.

If you are a good sport when you fish—be a good sport with the stream side land-owner.

White Hill art student (back to camera) oudly presents Mr. Sweely, his instructor, with e first 25,000 placards.

A TRIBUTE

The PENNSYLVANIA ANGLER pauses for a salute of tribute to the late Edward W. Nicholson of Philadelphia. Long identified in fishing circles, Mr. Nicholson was one of the founders and for many years, President of the Pennsylvania Fish and Game Protective Association of the city of Philadelphia. He also served for many years as a member on the Pennsylvania Board of Fish Commissioners and his passing removes a very influential figure from the ranks of fishermen in Pennsylvania.

Fisherman's Paradise Regulations

RULES AND REGULATIONS—SPRING CREEK PROJECT—SEASON 1951

1. **OPEN SEASON**—May 18th to July 21st, both dates inclusive.
2. **OPEN**—from 8:00 A.M. to 8:00 P.M. (Eastern Standard Time) or until Klaxon is sounded.
3. **ALL ANGLERS MUST PERSONALLY REGISTER BEFORE FISHING AND PERSONALLY CHECK OUT AND RETURN IDENTIFICATION BUTTON BEFORE LEAVING PROJECT. NO SUNDAY FISHING.**
4. **FISH IN THE POSESSION OF ANGLER MUST BE DISPLAYED AND CHECKED AT REGISTRATION BOOTH WHEN CHECKING INTO PROJECT. FISH NOT SO REGISTERED WILL BE CONSIDERED AS HAVING BEEN CAUGHT ON THE PROJECT.**
5. **ANGLERS MUST PARK AUTOMOBILES BEFORE CHECKING IN AND MUST CHECK OUT BEFORE REMOVING AUTOMOBILES FROM PARKING LOT.**
6. **DAILY LIMIT**—Only **ONE FISH** may be killed. The Angler must stop fishing after **ONE FISH HAS BEEN KILLED.**
7. Only artificial lures of hair or feather construction with barbless hooks or regular hooks with the barbs removed may be used. No spinners or swivels permitted.
8. Fishing with, or possession of, any live bait, angle worms, meat, liver, or any other bait, is a violation of the rules and regulations.
9. **SIZE LIMIT**—All fish caught from large stream under 10 inches in length and on ladies stream under 7 inches in length must be carefully returned to the water.
10. All anglers holding a Pennsylvania Fishing License will be permitted to fish five days during the season.
11. The dressing or cleaning of fish on the property is prohibited as all fish must be weighed when checking out.
12. **POSITIVELY NO WADING**—in the stream for any purpose permitted.
13. Sinkers or lures not exceeding the weight of 2BB Shot are permitted. No casting or spinning outfits permitted.
14. Feeding fish PROHIBITED except on Sunday.
15. Assisting in hooking or landing fish prohibited. All foul hooked fish must be carefully returned to the stream.
16. Violation of the rules and regulations will be subject to a fine of Twenty Dollars ($20.00), revocation of your fishing privilege on the project for the balance of the season, and revocation of your fishing license.

If you like this project you can help the sportsmen of the state by obeying these rules and reporting any infraction to the officers.

Section 251 of the Act of May 2, 1925, as amended, provides the Pennsylvania Fish Commission with authority to promulgate such rules and regulations for the angling, catching or removal of fish in or from any waters of this Commonwealth as may be deemed necessary. Penalty for violation—Twenty Dollars ($20.00) and in addition thereto may be fined Ten Dollars ($10.00) for each fish caught, taken or had in possession, contrary to these rules and regulations.

Pennsylvania Fish Law Violations

Cases Settled During the Month of December, 1950

ARMSTRONG COUNTY

Rice, Edward J., 631 Chess St., Pittsburgh, Pa. Fishing without a license $25.00

Shallenberger, John, Jr., 128 Linden Ave., Pittsburgh, Pa. Exceeding creel limit 10.00

BEAVER COUNTY

Rebach, Sam, 267 Barker St., Aliquippa, Pa. Loaning a license 25.00

BEDFORD COUNTY

Litz, Bert, Tire Hill, Pa. Illegal device 20.00

BERKS COUNTY

Moore, Mac C., Jr., Willow Pool Farm, Wernersville, Pa. Disturbing dam without permission 10.00

BRADFORD COUNTY

Andrews, Robert, 87 Grant St., Shickshinny, Pa. Exceeding creel limit .. 10.00

Miller, Deroy V., R. D. No. 1, Wellsburg, N. Y. Exceeding creel limit .. 10.00

BUCKS COUNTY

McMenamin, John, Jr., Princeton Ave., Philadelphia, Pa. Fishing without a license 25.00

CHESTER COUNTY

Washington, Robert S., 3822 Wallace St., Philadelphia, Pa. Fishing without a license 25.00

Williams, Liles H., 3811 Haverford Ave., Philadelphia, Pa. Fishing without a license 25.00

Peaco, Jerome, 3737 Haverford Ave., Philadelphia, Pa. Fishing without a license 25.00

FOREST COUNTY

Mack, James E., 1329 Hopkins St., Pittsburgh, Pa. Failure to display motorboat license 5.00

FRANKLIN COUNTY

George, Edgar M., St. Thomas, Pa. Illegal device 20.00

LANCASTER COUNTY

Bigler, Arthur M., Mountville, Pa. Illegal device 20.00

Carson, Edwin, R. D., Bainbridge, Pa. One undersized salmon 10.00

Diehm, Lloyd, 406 S. Lime St., Lancaster, Pa. Illegal device 20.00

Kondracki, George, 426 Pine St., Reading, Pa. Illegal device 20.00

Wade, Thomas, R. D. No. 4, Lancaster, Pa. Illegal operation of motorboat .. 10.00

Wolfe, Gerald, 441 Tulpehocken St., Reading, Pa. Exceeding creel limit 20.00

LUZERNE COUNTY

Glomb, Robert, 62 Brookside, Wilkes-Barre, Pa. Giving false information to secure a fishing license 25.00

NORTHUMBERLAND COUNTY

Bennage, Harry E., 465 Brown Ave., Milton, Pa. One undersized bass ... 10.00

PERRY COUNTY

Nace, Roy E., Millerstown, Pa. Fishing without a license 25.00

PHILADELPHIA COUNTY

Taylor, William E., 3833 Wallace St., Philadelphia, Pa. Loaning license .. 25.00

PIKE COUNTY

Foster, Paul A., 3551 N. 9th St., Philadelphia, Pa. Fishing in nursery waters 100.00

Melchior, Peter C., 910 Mahanoy St., Mahanoy City, Pa. Exceeding creel limit 100.00

Romich, Clark, Propton, Pa. Illegal device 20.00

Wheat, George S., 525 Pine St., Mahanoy City, Pa. Operating motorboat without displaying license plates .. 10.00

SOMERSET COUNTY

Sauritch, John, 875 Prospect Ave., Charleroi, Pa. Illegal device 20.00

SUSQUEHANNA COUNTY

Wells, Harold, 462 Main St., Jottson City, N. Y. One undersized bass ... 10.00

VENANGO COUNTY

Henry, Ormand L., 211 Terrace Place, Pittsburgh, Pa. Illegal operation of motorboat 10.00

WYOMING COUNTY

Dickinson, Z. N., R. D. 5, Tunkhannock, Pa. Failure to keep record of fish bait sold 20.00

Cases Settled During the Months of January, February, 1951

BERKS COUNTY

Gamber, John A., 3615 Chestnut St., Laureldale, Reading, Pa. Exceeding creel limit $10.00

Loiselle, Joseph E., 918 Gilgers Court, Reading, Pa. Illegal device 20.00

Philleps, Harry A., 204 Barnhart Ave., Hyde Park, Reading, Pa. Exceeding creel limit 10.00

Reddy, Raymond A., 709 Lehigh St., Reading, Pa. Fishing without a license 25.00

BLAIR COUNTY

Kauffman, Ira W., R. F. D. No. 2, Martinsburg, Pa. Fishing in nursery waters 100.00

BUTLER COUNTY

Thompson, K. D., Boyers, Pa. Exceeding creel limit 10.00

CAMBRIA COUNTY

Haines, Wesley, Houtzdale, Pa. Exceeding creel limit 20.00

Zimmerman, George, Fallen Timber, Pa. Fishing without a license 25.00

CLEARFIELD COUNTY

Genelius, Frank C., Smoke Run, Pa. Illegal device 20.00

Haney, Maurice, R. D. No. 3, Clearfield, Pa. Violation of the rules and regulations 20.00

Sauper, Joseph M., Smoke Run, Pa. Illegal device 20.00

DAUPHIN COUNTY

Witter, Lawrence, R. D. No. 1, Middletown, Pa. Exceeding creel limit 50.0

FAYETTE COUNTY

Smith, William H., R. D. No. 1, McClellandtown, Pa. Altering a fishing license 25.0

Smith, William H., R. D. No. 1, McClellandtown, Pa. Fishing without a license 25.0

FRANKLIN COUNTY

Mellott, James, Jr., Fort Loudon, Pa. Fishing without a license 25.0

Richards, George L., R. D. No. 3, Mercersburg, Pa. Fishing on Sunday without permission of landowner 25.0

Sord, John W., 455 E. King St., Chambersburg, Pa. Fishing without a license 25.0

FULTON COUNTY

Edwards, Melvin E., Big Cove Tannery, Pa. Fishing without a license 25.0

JEFFERSON COUNTY

Blose, Charles, R. D. No. 1, Punxsutawney, Pa. Fishing without a license 25.0

JUNIATA COUNTY

Boone, Warren, E. Waterford, Pa. Fishing without a license 25.0

LACKAWANNA COUNTY

Kotcho, Joh, 302 3rd Ave., Jessup, Pa. One pike in closed season 10.0

Marcho, Wassel, 132 Hudson St., Jessup, Pa. One pike in closed season 10.0

LANCASTER COUNTY

Clouser, Ray E., R. D. No. 2, Elizabethtown, Pa. Exceeding creel limit 50.0

LEHIGH COUNTY

Lewis, William, 451 Lehigh St., Allentown, Pa. Exceeding creel limit 20.0

LUZERNE COUNTY

Cwiklik, Frank, 74 Ridge St., Glen Lyon, Pa. Illegal device 20.0

Jambowski, Julius, R. D. No. 1, Wyoming, Pa. Illegal device 20.0

Kodra, John, 761 Charles St., Luzerne, Pa. Exceeding creel limit .. 10.0

Mussel, Robert, 894 Bennett St., Luzerne, Pa. Exceeding creel limit .. 10.0

Roberto, Alex, 201 Battle Ave., Exeter, Pa. Exceeding creel limit 10.0

Rokosaz, Edward, 82 Prospect Hill, Alden, Pa. Illegal device 20.0

McKEAN COUNTY

Shillenger, Lawrence A., 184 E. Main St., Bradford, Pa. One undersized trout 10.0

MIFFLIN COUNTY

Yoder, James E., Star Route, Allensville, Pa. Fishing without a license 25.0

MONROE COUNTY

Detrick, Donald W., R. D. No. 3, Stroudsburg, Pa. Illegal device ... 20.0

PHILADELPHIA COUNTY

Hames, Lee, 640 N. 37th St., Philadelphia, Pa. Loaning a fishing license 25.0

KE COUNTY

iwoda, John, Bushkill, Pa. Lines ot under control 60.00

)GA COUNTY

k, Harold B., Jr., 22 W. Avenue, Vellsboro, Pa. Violation of the rules nd regulations 20.00

STMORELAND COUNTY

sky, Joseph, Diamond St., Mt. leasant, Pa. Violation of the rules nd regulations 20.00

enka, Robert J., 4 Vine St., Mt. leasant, Pa. Violation of the rules nd regulations 20.00

OMING COUNTY

kler, Phillop, Outerhout, Pa. Il-gal device 20.00

T OF STATE

h, Playford, R. D. No. 4, Grants-ille, Md. Fishing without a license 25.00

iglin, Joseph P., 430 Marvin Ave., Iackensack, N. J. Exceeding creel imit 100.00

e, William, Jr., R. D. No. 1, Nar-owsburg, N. Y. Lines not under ontrol 20.00

ter, Percy, R. D. No. 1, Narrows-urg, N. Y. Lines not under control 20.00

Stream Notes

HEW!

While walking along the old canal ich lies parallel to the Susquehanna ver below Holtwood Dam on the rk Co. side of the river, I became ed and attempted to scale an old ne wall in order to shorten the dis-ce to my car.

While in the act of scaling the stone ll, I unknownly placed my hand thin several inches of a copperhead ake. Retreat was impossible as the er was directly below me, and I uld not continue to climb because of e treacherous snake. The beads of rspiration stood on my forehead due my helpless position, and the fact at I was several miles away from my r and medical assistance.

The snake poised its head as if to ike, but instead, quickly uncoiled d retreated to the seclusion of a evice in the rocks.

—*Warden John S. Ogden*

OBBERY! WE SAY

On March 10th, I found a dead 33-ch rainbow trout. Investigation re-aled a hook in its throat attached to x feet of line. The stomach contained one ounce lead sinker, 5 blue gills, yellow perch, and a number of small h. Total weight of contents of omach, 16¼ ounces, total weight of out, seven pounds, five ounces.

—*Warden William McIlnay*

No—They're Not Deer Flies!

By Gene Craighead

On May 19, 1949, while fishing in Penns Creek, Union County, just one mile above Weikert, Pennsylvania, I noticed an unusually large hatch of flies. Many were on the surface of the water and the trout were constantly feeding on them.

I thought at first they were the deer fly or *Chrysops*, which we all encounter during most of the fishing season. These deer flies are the ones that are never satisfied unless gorging themselves with blood either taken from the fisherman or an animal. They are rather swift fliers, make considerable noise in doing so, and seem to draw blood at the moment of contact with the skin.

One could not help but notice this large hatch of flies, but when acquainted with the deer fly and their feeding habits, you had to pause and wonder why they made no attempt to bite. They were on my neck, hands, and face by the dozens. I stopped fishing long enough to kill one and examine it, and discovered at once that it was a new insect to me. I caught and pinned several dozen at that time, and they were later determined by Dr. Champlain as *Atherix variegata Walker,* a member of the snipe fly family. There are three specimens in the State Collection taken over a period of fifty years. One specimen from Utah and two from Pennsylvania. Here is an insert that is apparently quite rare, but they were present by the hundreds of thousands and were found in numbers for a period of ten days. Their flight was much slower than the deer fly; one could actually follow them in their flight. Once they sat down they were very easy to capture, and never made any attempts to bite. The buzzing sound made in flight was much softer than that made by the deer fly.

Just twenty minutes later while fishing along side of a large tree that had fallen into the water, I noticed a large number of flies floating on the water and following the flow, I discovered that these same flies were laying their eggs in a large mass on the under surface of the fallen tree. Eggs would hatch from the mass and the larvae dropped into the water. A dozen or more of these egg masses were found in similar positions or on the under surface of a small suspension bridge. Flies and eggs formed dense masses and many of the adults or flies would die and become embedded in the large mass of eggs during the process of egg-laying by the thousands of females. Some of these egg masses weighed as much as three pounds. Flies that fell upon the water were soon taken by the trout and any artificial fly imitating our common house fly, or an Adams tied on a No. 16 hook would take the trout.

School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

May is the month of woodland music. Then the sounds of birds and mammals blend with the wind in the new leaves and the reckless gaiety of the helter skelter mountain stream. May is an excellent month for bird study, and on our Page this month we're going to give them most of our attention.

Go Birding

There's no way to study birds like that of watching birds go through their regular duties. Studying mounted specimens or prepared skins is interesting, but watching birds building their nests, feeding their young, and defending their areas makes for unforgettable experiences. Your bird group should be small. Don't take anyone along who acts like a jumping jack, or he'll scare the birds away. Your movements must be slow and even. Wear neutral shades. Take along a pad and pencil, a bird guide, and field glasses. keep the sun on your back; a bird . . . even a cardinal . . . seen against the sun appears black. While you may find birds anywhere, you're apt to see more of them in certain habitats like along the edge of a brook, where a wood lot meets a meadow, in open glades in a forest.

May Ends Migration

Birds return to their nesting grounds each spring. Some, like the geese, are on their way north already in February. A few, like the shore birds, arrive as late as the middle of June, but by the last of May the great majority have arrived at the breeding grounds. In autumn they return South. Some, like the orchard oriole, will be ready to leave in September while many of the sparrows will put off the trip until late in November. Of course there are always a few species, like the quail and the pheasant, that stay in one general area the year round.

The Golden Plover makes a long trip each year.

——— Nesting Area
| | | | | Winter Area

Egg Laying Time

During May the majority of birds get down to the business of nesting. A number of them began much earlier in the year. Frequently owls begin nesting already in February. In March the hawks get started. Robins, bluebirds, and mourning doves lay eggs in April. A few loaf so long that June is well under way before the eggs are laid; these include the goldfinch and the cedar waxwing.

Birds are Strange Animals

Birds are unique among animals. Let's list a number of ways in which they are different from other forms of life.

1. They are covered with feathers; often this plumage is strikingly colorful.
2. They possess the power of flight; only one other animal, the bat can fly.
3. They have toothless beaks.
4. They are the most warm-blooded of animals.
5. Their feet are adapted in a variety of ways to help the bird fit into its environment.
6. They make excellent parents, and their nests are often amazingly constructed.
7. While many animals lay eggs, theirs are the only ones to have hard, brittle shells that are often speckled or colored.
8. Many have the ability to produce lovely song.
9. They exceed all other animals in the extent of their migration.
10. Their senses of sight and hearing are unusually well-developed.

Bird and Fact

——1. Female larger than male — A. Doves
——2. Has the greatest wing spread — B. Golden Plovers
——3. Drink without raising their heads — C. Ringnecks
——4. May have 6 broods a year — D. Humming birds
——5. Migrate each year from the Arctic Circle to lower S. America and back — E. Grebes
——6. Their ancestors were introduced from China — F. English Sparrow
——7. Stomachs always contain feathers — G. Albatross
——8. Is misnamed; it's a Weaver Bird — H. Duck Hawk
——9. Can fly backward

ANSWERS: 1-H, 2-G, 3-A, 4-F, 5-B, 6-C, 7-E, 8-F, 9-D

BIRD BEAKS ARE OF MANY SHAPES

1. Hummingbird
2. Starling
3. Brown creeper
4. Flamingo
5. Crow
6. Red crossbill
7. Night hawk
8. Paroquet
9. Bob white
10. Cedar waxwing
11. Puffin
12. Merganser
13. House wren
14. Spoon bill
15. Duck hawk

Match Quizzes

Bird and Nest

——1. In a Tunnel — A. Killdeer
——2. In a Chimney — B. Oriole
——3. Hollow in Tree — C. Kingfisher
——4. On the Ground — D. Swift
——5. Hanging from limbs — E. Mourning Dove
——6. Just a few Sticks — F. Woodpecker

ANSWERS: 1-C, 2-D, 3-F, 4-A, 5-B, 6-E

Chuck, the Warden, says:

"If birds were to disappear entirely, human life too would vanish in less than ten years." That sounds fantastic until one studies birds and realizes the work they perform in keeping a balance between weed and insect groups and other plant and animal groups. Scientists have studied the stomach contents of many birds and they have learned some interesting facts:

1. A flicker's stomach contained 1,000 chinch bugs.
2. A chickadee's stomach contained 200 cankerworms.
3. A yellow-throat's stomach contained 3,500 plant-lice.
4. A killdeer's stomach contained 300 mosquito larvae.
5. A cliff swallow's stomach contained 68 boll weevils.
6. A snow bunting's stomach contained 1,000 pigweed seeds.
7. A ringneck's stomach contained 8,000 chickweed seeds.
8. The tree sparrows of Iowa destroy 875 tons of weed seeds annually.

Our Department of Agriculture states that birds are worth 1/3 of a billion dollars a year to the farmer. We know that man's chief rivals for supremacy on the earth are the harmful insects. Birds help us far more than we realize in our constant fight with the insect pests.

DIRECTORY

Regular Fish Wardens of the Pennsylvania Fish Commission

Harrisburg, Penna., Corrected To March 15, 1951

CHIEF FISH WARDEN

W. W. Britton — South Office Building, Harrisburg — Hbg. 5151, Ext. 2077

Home Address: 118 N. 4th Street, Lemoyne, Pa. — Hbg. 6-4385

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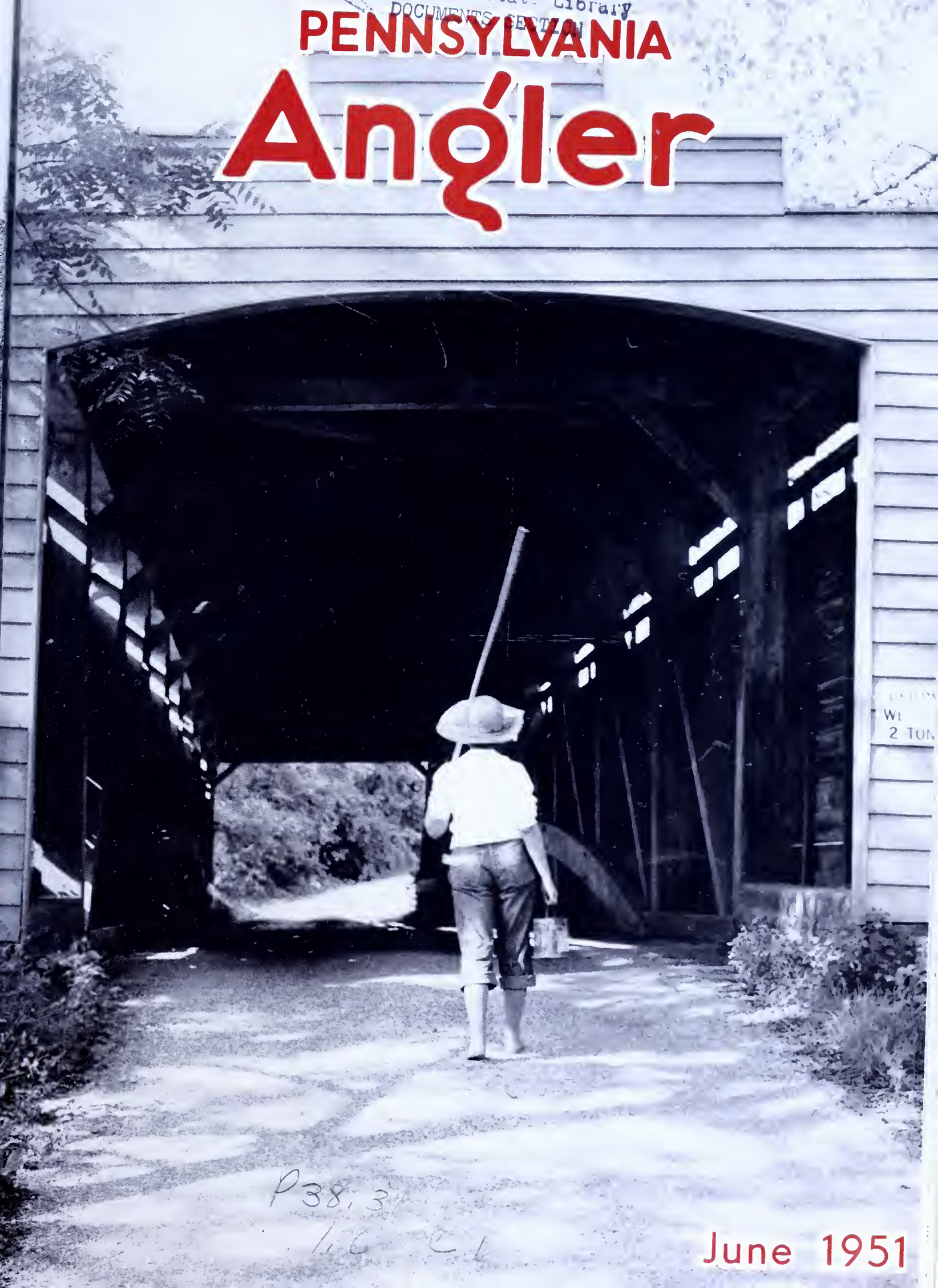

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*

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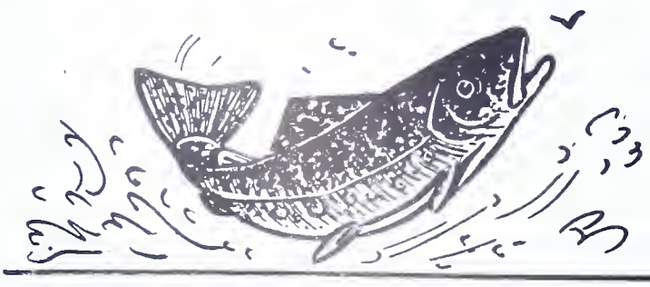

L-E-T-T-E-R-S

entlemen:

Enjoy reading your magazine, especially the icroscopic & biological articles pertaining underwater creatures on which smaller rieties of fish live. Have fished the dam foot of Hepburn street, Williamsport. In e Fall, when river was low, climbed down ute wall . . . crossed over bottom of chute d up the other side to the dam. When high ater prevailed in the Spring months, rafts partially squared long logs, bound with plings, with bent hickory pieces under-eath and nailed securely to the saplings, ould shoot through enroute to Havre de race, Maryland.

They had to be steered just right to enter e chute for there would only be a couple et lee-way on either side of the chute. A ooden shanty was erected near center of ft, when the raft would reach lower end chute, waves would sweep back a quarter the length of raft.

My parents moved to New Berry, Pa., ross the tracks, not far from Dodge Mill mber yards, between the high piles of eshly cut boards of pine, hemlock, and k. Beneath the trestles was an excellent ace to dig worms. On the riffles in ycoming Creek, below the Reading R. R. idge, would provide us with hellgramites. ethod of procedure . . . a piece of burlap ed to two broomsticks and a pal to turn er the stones; current moving them into e burlap net. Lamprey eels were obtained om a depression at the edge of old canal ed, up past Morris Lundy's small barn, ear the Reighard farm, by digging in the ud and water.

Bass season opened June 1st. No fishing enses were required. A square or so be-w the foot of Arch Street, the Dodge Mills d a small boom of three or four cribs escribing a ninety degree arc out into the ver to hold their logs. A jack slip lifted em up and across the old canal bed to a ib on which was a square timber placed an angle to the endless spiked chain of e jackslip. The logs striking this piece of nd saw spiked on the timber, would tumble wn into the pond.

Hardware stores would have a couple dozen mboo poles on display, out on the sidewalk ear the front doors. Prices were ten cents a quarter, depending on length and raightness; cotton line; Kirby ringed hooks; n of good, big worms and down to the odge boom to wet a line.

Between the first and second cribs, count-g the farther one in the river as No. 1, as a good place to have a try. I fished ietly and patiently on a hot afternoon, anding on that boom stick, . . . no results. ot even a nibble. The sun was getting wer and I was commencing to suffer from nger so I decided not to waste my good orms, lifted up my line and strung the orms one by one, sideways on the hook. let it go down nearly to the bottom, soon d a strike and pulled in a nice black bass. ould not land him immediately but gradu-ly worked him to the edge of the boom ick. Reaching home, mother weighed it . . . oped the scales at three pounds.

—N. H. Myers

ttsburgh, Pa.

PENNSYLVANIA Angler

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The Cover . . . School's out! Once again it's farewell to classrooms and books until next Fall, a long, long way off. Summertime is adventure time for youth. To dig worms, cut a new pole and head for the old fishin' hole, is important. There, under the shade of a kind'y old tree, youth has a place to dream, a spot where imagination helps build a new shining world that needs fresh, new ideas if it is to survive.

Saving OUR FISHING WATERS

Program Under Way in Pennsylvania Aims at Offsetting Losses Due to Pollution, Poor Land Usage, and Posting.

By C. R. Buller
Chief Fish Culturist
Pennsylvania Fish Commission

AT THE present time there is Pennsylvania an extensive p gram for the construction of large pounding reservoirs. This work being carried on by the United Sta Government, the Pennsylvania Dep ment of Forests and Waters, the Pe sylvania Game Commission, and Pennsylvania Fish Commission. T program will create many acres of fishing waters. In addition to this very progressive program of stre purification is being conducted several of the major watersheds, s as the West Branch of the Susq hanna River, the Schuylkill River, others.

In 1938 the Pennsylvania Fish C mission was stocking approximat 139,000 acres of water with wa water fish. This included rivers, wa water streams, lakes and ponds. of January 1, 1950, this had been duced to 110,468 acres. It is anticipa that the new program will more t bring the acreage back to the 1 level. In fact, this is showing a v promising gain as there was an crease of 3,067 acres in the past yea

The possibilities of the future tr angler's having a place to fish are nearly as promising as those of warm-water fisherman. In 1938 Fish Commission had on its reco 5,700 miles of trout waters that the biological and physical specif tions for stocking with takable tr As of January 1, 1950, this mileage been reduced to 3,781. These figu definitely indicate that if measures

Stream purification is being carried out on several major water sheds. This is a seal pl on an abandoned mine on a tributary of L sock Creek, in the watershed of the West Br of the Susquehanna River.

←

ot soon taken to reclaim trout streams tat have become biological liabilities fr trout and to acquire for public use tose waters that still remain, the cming generations will be deprived c this recreation.

Three major factors have reduced te trout waters of the Commonwealth:

First, pollution. Pennsylvania is nsidered an industrial state blessed vth many natural resources with ecial reference to coal. Manufacturig establishments have destroyed a mber of trout waters and in recent ars coal stripping operations have come a serious menace. This industry ined uncontrolled headway as a war ergency during the last World War d really got somewhat out of contol. At the present time careful idies are being made of this phase of cal mining and it is felt that in the ar future they will be required to erate under regulations that will not rmit the destruction of the fishing aters.

Second, poor land usage has greatly ded to the depletion of our trout aters. Poor land usage has been resonsible for the silting of the stream ds, increase of summer water temratures, saturating our largest rings with gases obnoxious to fish d in some cases completely drying stream beds during the low-water riods.

The third factor that has closed ny miles of some of the best trout eams in Pennsylvania is posting by ivate clubs and individuals who in ny instances make commercial projs of these trout streams.

A fisheries management program t will include all phases of fisheries nservation and restoration, with ecial reference to improved land nagement, may in many years to me restore some of the former trout eams. Public sentiment and the

(*Turn to page* 24)

↑ Poor land usage has resulted in the silting of stream beds and choking of watercourses by flood waters. This is a barren flat on Larrys Creek, in Central Pennsylvania.

Here is a trout stream—a section of Rock Run, in Lycoming County—which is just as Nature "manages" it. Notice the excellent cover and the trees which, when in leaf, provide shade for the water. →

↓ A great majority of trout streams flow through private land, as does this brook in Potter County. Fishermen enjoy them only through the courtesy of the land owners.

The Pennsylvania F

A Pre-Historic Killer

By Richard F. Williamson

This savage killer, commonly known as the gar pike, was a reside of Pennsylvania for thousands of years and remains long aft animals of that dim dark past have vanished from the earth.

Photos by George Gordon—Official Photographer
Pennsylvania Fish Commission

A SLIM, savage killer that has resisted the changing processes of nature for countless thousands of years and has managed to remain in existence in many waters while other prehistoric creatures have vanished is now being further studied in its restricted domain in Pennsylvania.

The killer is the longnose gar, commonly known as the gar pike, and is present in the waters of Conneaut Lake and Lake Erie. It is one of three species of gar found in the United States. Two of these, the spotted or shortnose gar and the longnose gar, are found in the southeastern United States, the Mississippi River drainage area, and the Great Lakes. The alligator gar is an inhabitant of the lower Mississippi Valley.

Gordon L. Trembley, Chief Aquatic Biologist of the Fisheries Research Laboratory, and Edward F. Westlake, Jr., Assistant Aquatic Biologist, have begun studying the longnose gar in its restricted range in Pennsylvania. The work, incidentally, has become a part of the long-term stream and lake management program of the Fish Commission, begun several years ago.

The laboratory men are being assisted in the work by Carlyle Sheldon, State Fish Warden for Crawford County.

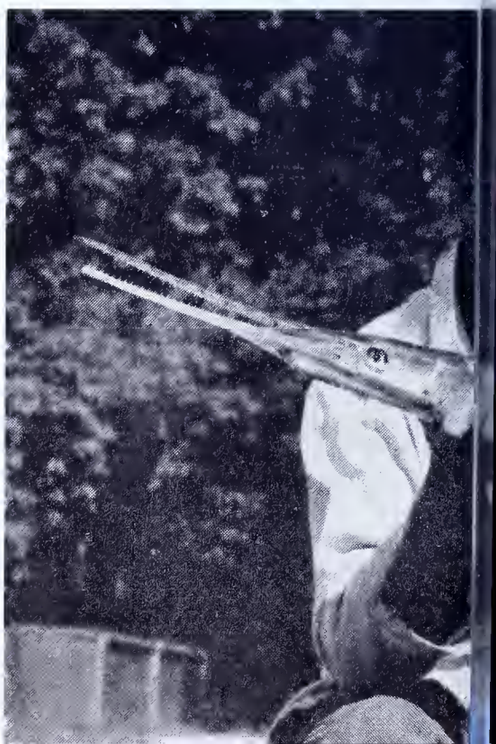
They stress this fact—there is nothing alarming at the moment in the presence of longnose gar in Conneaut Lake and Lake Erie. But other species of the gar are a serious problem in the Mississippi Valley and the southeastern United States. The gar present in Conneaut Lake for many years are probably remnants of a population that formerly inhabited the entire Ohio River drainage; but due to pollut and other factors, those in Conne may be all that are left.

Numbers of longnose gar have b caught in gill nets, but netting is the method planned for their cont Longnose gar spawn in comparativ shallow water—as many as 200 of fish depositing their eggs in an a of thirty-six square feet—and th masses of eggs are easily detected.

The plan is to destroy this spa with certain chemicals. Favo spawning areas have already b charted in Conneaut Lake, where work will begin. The chemical tr ment will be applied when the e have been deposited. If the eggs destroyed—and the biologists beli that they will be—the same work be done in Lake Erie.

Thus the longnose gar will be c trolled in the waters of the Keyst State.

Its body is long, slim, and sup reaching a length at maturity aver ing four to five feet. Specimens h been seen 53 inches in length



This strip of five pictures, reading from top to bottom, shows the development of the longnose gar through the first seven days of its life. Notice how the yolk sac which nourishes the fish gradually is absorbed as its body develops. The eyes and snout of the fish are well defined by the time it develops to the stage shown in the fourth picture from the top. The yolk sac has entirely vanished by the time the gar has developed to the point shown in the bottom photograph.

mmission Studies

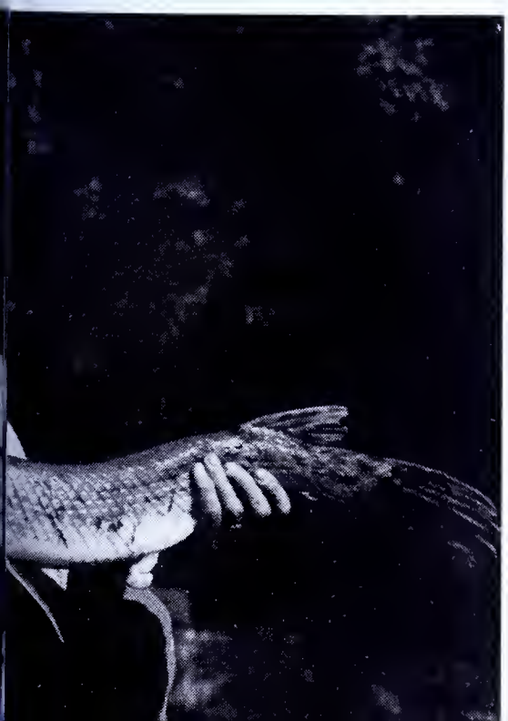
THE LONG NOSE GAR

From the Research Studies of
Gordon L. Trembley—Chief Aquatic Biologist
Edward F. Westlake—Asst. Aquatic Biologist
Pennsylvania Fish Commission

eighing 13 pounds. Covering the tire body is an armor of large, hard, mooth, enameled scales. A small liber bullet is quite likely to glance rmlessly off these scales, and so nt-like is their substance when dry at it actually is possible to strike arks from them by hitting them with sharp piece of metal.

The scales probably explain why e gar has continued to thrive down rough the ages while other creatures th an equally ancient history have sappeared. The scales make him imune from attack by other denizens the waters he frequents. Only the ligator, according to one naturalist, able to attack a gar successfully.

The jaws of the gar are long, narrow, d armed with sharp teeth with hich they seize their prey. From the ne they are six to eight inches in ngth, they feed entirely on other, naller fish. In fact, the construction their mouths makes it difficult for em to take any other form of natural rage.



This is a fully-grown adult longnose gar captured in Conneaut Lake. Notice the slender, racy lines of the fish; its long jaws carrying rows of wickedly sharp teeth, and the shiny armor plating of scales that covers the entire length of its body.

The gar has limited economic and commercial value. The flesh is not edible. The roe of some southern species of the fish, as a matter of fact, is poisonous.

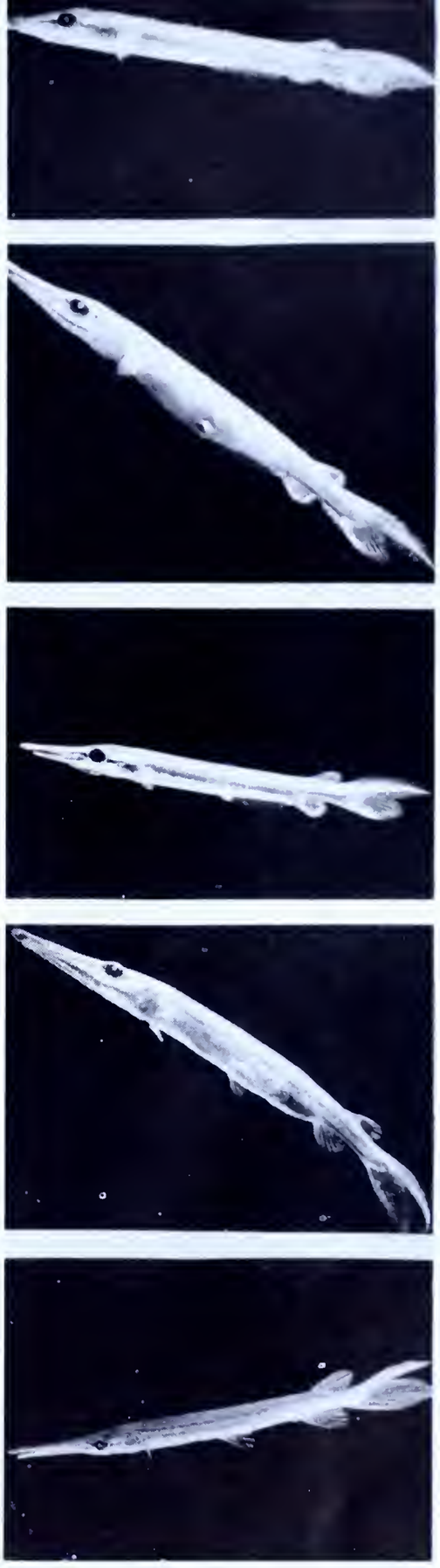
The fish frequents shallow and reedy or grassy places in rivers and lakes, basking in the sun and appearing sluggish and indolent. But when it is hungry, it devours its prey with voracity, grasping the smaller fish in its slender "bill" and gulping it down.

The life cycle of the gar has been studied and carefully charted in the Fish Commission's Fisheries Research Laboratory, which is located at Bellefonte and is under the supervision of C. R. Buller, Chief Fish Culturist of the Fish Commission. Development of the fish has been recorded, also, in a series of unusual photographs by George Gordon, photographer for the Fish Commission, which are printed in connection with this article.

The gar begins its cycle in the form of a tough egg about one-eighth of an inch in diameter. The egg is heavier than water, which causes it to remain on the gravel and pebbles of the spawning bed, and it is covered with an adhesive substance which holds it firmly anchored during the period of incubation.

When the fish emerges from the egg, it bears no resemblance to a fish. It is an oddly shaped organism in which the head and tail are distinguishable; the body is draped partly around a yolk sac, whose contents are absorbed.

In seven days a remarkable transformation takes place. As the contents of the yolk sac are absorbed, the body of the creature grows rapidly, taking



The five pictures in this strip cover a period of forty-seven days in the development of the longnose gar. Note, for one thing, how the long, slender bill of the fish takes its true form in the successive stages covered by the pictures. At the same time, the tail takes on its graceful shape and fins appear. Markings of the fish are clearly visible in the bottom picture of this strip.

Above: Three immature longnose gar photographed in the aquarium of the Fisheries Research Laboratory at Bellefonte.

At left: Here a longnose gar is caught by its bill, gill covers, and fins in a gill net set by members of the staff of the Fisheries Laboratory.

on the elongated form of a fish; th mouth appears in a snout-like form the eyes develop; the gills and tail ap pear. During this seven-day perio the fish hangs on surrounding object by a small adhesive disc where th long, slender snout later develops.

By the end of the seventh day, th yolk sac has entirely disappeared; an then begins a period of forty-seve days in which the body developmen continues, if at a slower pace.

The long, toothed bill appears at th end of the head; the eyes take thei true form; the graceful tail develop and, finally, the body colorations an markings appear.

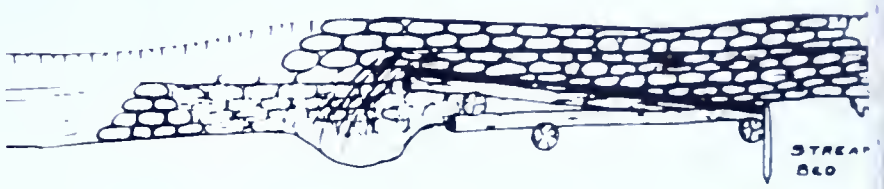
At the end of the seventh day—or a the close of the period when the fis depends upon the contents of the yol sac for nourishment—the gar ha grown from its one-eighth-inch d ameter to a length of about an inc and a half. At the end of the forty seventh day, the fish averages si inches in length.

This, then, is the story of an unusu fish whose distribution is very limite in Pennsylvania and which is bein studied by the Fish Commission, wit the hope of better understanding it place in the fish management picture.

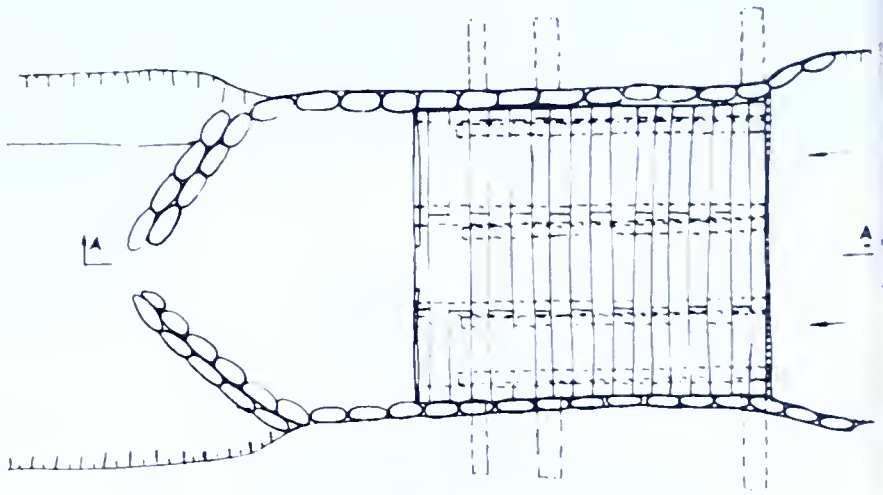
Helping A Stream Produce Better Fishing

By Thomas F. O'Hara
Construction Engineer
Pennsylvania Fish Commission

Photographs by George Gordon,
Official Photographer
Pennsylvania Fish Commission



SECTION AA



PLAN VIEW

WATER JACK DAM

This type of dam can be built in a permanent manner and serves in creating two pools one above the dam and one below the dam. The use of stone deflector below the dam helps to create a pool that will allow protection for the fish and aid migration.

Anchor bottom log (12 to 15 inches in dia.) securely to stream bed approximately 8 foot apart. Use approximately 8 inch logs every 4 feet across the stream, cover these logs with two thickness of 1 inch boards breaking joints. Drive 2" x 6" piling fashion along upper edge of upstream log to seal the dam. Lay stone abutment in cement mortar. Do not build dam over 3' high 50' wide. Overall length 12' to 15' slope 1' on 3'.

In locating dam have sufficient bank height or free board so the creek will not cut a new channel around the dam.

Right—Figure 1. Plan of a Water Jack Dam.

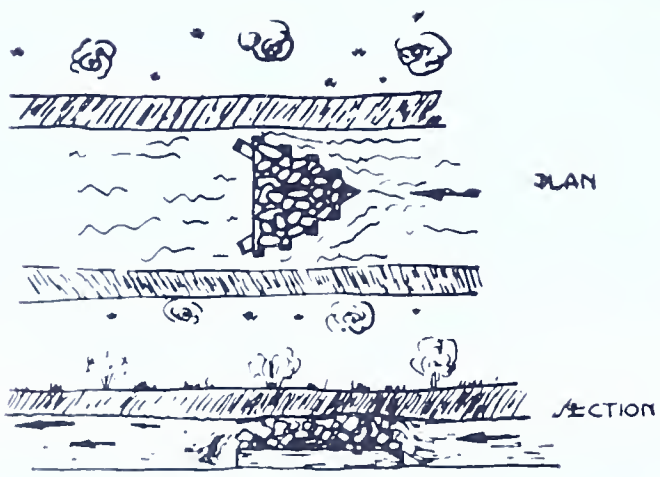
MOST rivers and creeks probably were teeming with fish many generations ago before man with all his driving ambition and genius took possession of the land and began cutting its forests, tilling its fields, and building cities and factories along its waterways.

Back in those days almost any stream could be classified as an ideal abode for fish. There were many pools that provided cool depths of water in summer and safety in winter; there were short riffles, which stirred up food and aerated the water as it flowed; there was plenty of natural cover—boulders, toppled trees, and the like. Forests grew close to the water edge and provided abundant shade. There were pockets of decaying leaves and other organic matter that produced food for fish.

Today, however, the picture has

This photograph below shows how a Water Jack Dam speeds up the flow of the stream current and creates two pools, one below and one above the dam.

Above — Three triangular cover rock piles are indicated by the arrows on this photograph. Each one creates an area of cover, and each one diverts and speeds up the flow of the current around it.



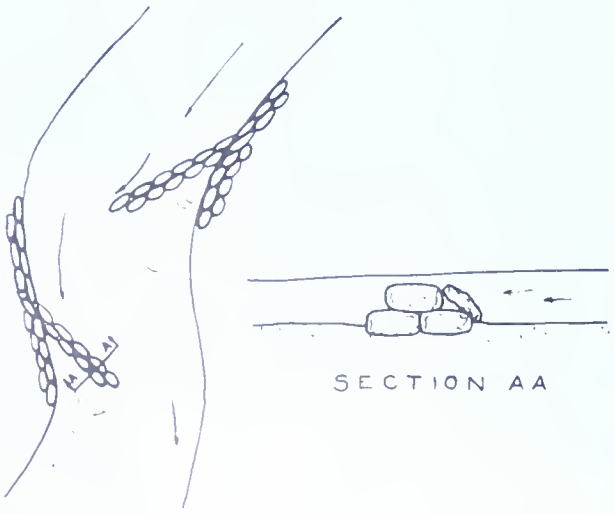
TRIANGULAR COVER

This device can be used to create cover and to deflect the current of the stream. It can be constructed on the bank of the stream then placed in the water and weight down with stone which will hold the device in place. Use 8" to 10" logs to make the triangle, 4" to 6" poles across the triangle spaced according to the stone that is to be used to weight down the device.

In placing the device in the stream always have the point of the triangle pointing upstream.

Above—Figure 2. Diagram of a Triangular Cover.

Below—Figure 3. Diagram of an Alternate Deflector.



ALTERNATE DEFLECTOR

This device is used to stop bank erosion and to speed up the current. One of the best uses is in shallow riffles, as it confines the current to a channel which in time will scour out deeper and will allow the migration of the fish. It will also afford better protection for the fish life.

This is also a practical device to install in a dam and in slow moving areas as it creates a current which does not allow the sediment to be deposited in these areas.

In building do not build above the normal water level. Keep the sides higher than the center of the deflector.

radically changed: true, there still a many streams which are ideal for fi and fishing that have retained tho qualities of the time before m arrived. But improper use of the la has led to soil erosion and the washi of earth into streams and floods whi have filled deep holes with gravel a made riffles more shallow and la Cutting of timber has reduced t ability of the soil to retain moistu to be fed into springs and streams the dry months of summer. Natu cover has disappeared and swam areas that contained decaying veg tation have been cleaned out. As result, man faces the problem of shrinkage of the water that he may u for the sport of fishing.

No one has a quarrel with the o ward march of civilization and wi developments which contribute to high standard of living; but the tr sportsman, at the same time, must fe an obligation to do what he can make up for the inroads that man h made upon nature.

Physical improvement of trout a bass streams has long been a matt of major concern for the Pennsylvar Fish Commission. Considerable su of money have been spent and ma hours of experiment and study ha

Below—This picture shows an Alternate Deflector extending out from the shore into a slow pool, serving as an excellent device for creating a deeper and faster channel around its end.

Above—The white water in this picture indicates the presence of a Type H boulder dam. The stream was about a foot higher than normal when the photograph was made.

below the dam, as indicated in the drawing, helps in the creation of a pool that will provide cover for fish.

The dam is constructed of logs and one-inch boards. The foundation logs should be 12 to 15 inches in diameter and must be securely anchored to the stream bed and placed about eight feet apart across the flow of the current. Atop these are fastened logs about eight inches in diameter, spaced approximately four feet apart and paralleling the stream current. This second layer of logs then is covered with two thicknesses of one-inch boards with the joints unevenly spaced. Timbers two by six inches in size should be driven along the upper edge of the upstream log to seal the dam. Abutments are made of stone, laid in a cement mortar. To provide maximum

(*Turn to page* 24)

n devoted to this cause—and good ults have been obtained.

On Spring Creek, a rather lazy limeine stream that flows through Centre unty, engineers of the Fish Commisin have worked for some years on tretch which originally had all the lts of a poor fishing stream. There re long, shallow pools where the rent slowed almost to a standstill; re was a lack of riffles to speed up l pump oxygen into the water. sion was wearing away the banks. this stretch of water the engineers lt and proved the value of some her simple devices to improve the eam. It is believed that the work t has been done on Spring Creek be done on any other stream ere such conditions exist.

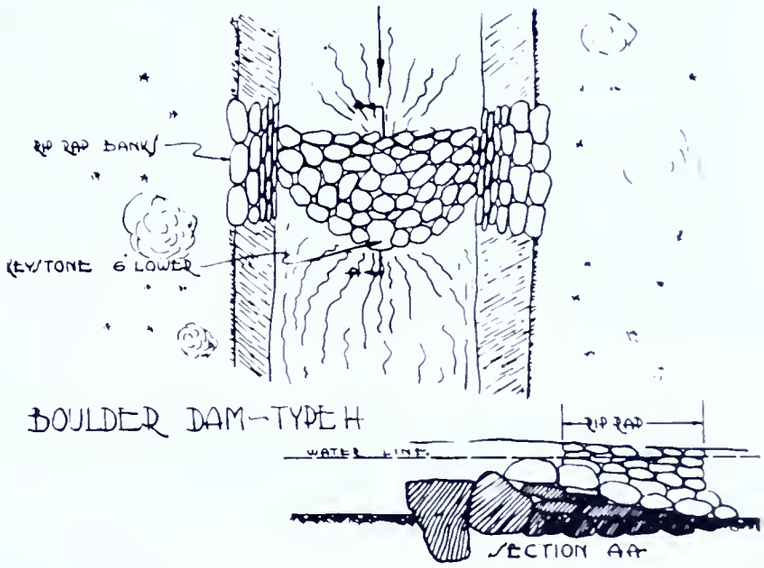
A few words of warning are in order this point. Aimless tampering with tream can often do more harm than d. A stream improvement device t is improperly made or incorrectly talled is worse, in some cases, than hing at all. Further, there are laws ich regulate what work can be done any stream by private individuals.

Four devices that have proved of at value in the experimental section Spring Creek are the water jack n, the triangular cover, the alter-e deflector, and the Type H boulder n. In addition to these, there is a ple device that has proved able to b erosion of stream embankments stream currents.

The Water Jack Dam

This is illustrated by Figure 1 and photograph that accompanies it. is type of dam can be built as a manent improvement. It creates o pools, one above and one below dam. The use of stone deflectors

Right—Figure 4. Diagram of a Type H Boulder Dam.



This device can be used to create pools in streams, but there is no use in making a dam of this type unless the boulders used are as large or larger than what are already in the stream.

Stone SHOULD NOT be taken from the stream but gathered from the surrounding area in the vicinity of the stream.

Below—Rocks have been dumped along the stream bank in this spot to protect it from erosion by the current.

MR. METHUSELAH PASSES ON

Even trout show wear and tear in our hectic modern era. Here's what happens when a trout strips his gears, wears out and gives up the ghost!

Photos by George Gordon

From Research Studies of
Arthur Bradford—Pathologist
Pennsylvania Fish Commission

YOU have all heard yarns about tro that grew to mammoth size becau they were so smart no angler could cat them. Did you ever wonder what good did them?

Well, one brown trout in Well Cre Reservoir, in Carbon County, was that ki of a fish.

But it died anyway—of old age.

The fish, which was 26 inches long b weighed only 2½ pounds, was found Game Protector Glenn Kitchen and se to the Fisheries Research Laboratory Pleasant Gap for a post-mortem. Arth Bradford, Fish Commission pathologist, turned this verdict:

"Death due to old age."

Bradford found the liver and other gans flabby and degenerated.

Even the gill filaments, when examin under a microscope, showed unmistakal signs of being worn out by constant use.

George Gordon, official Fish Commissi photographer, wrote this obituary of t trout in pictures.

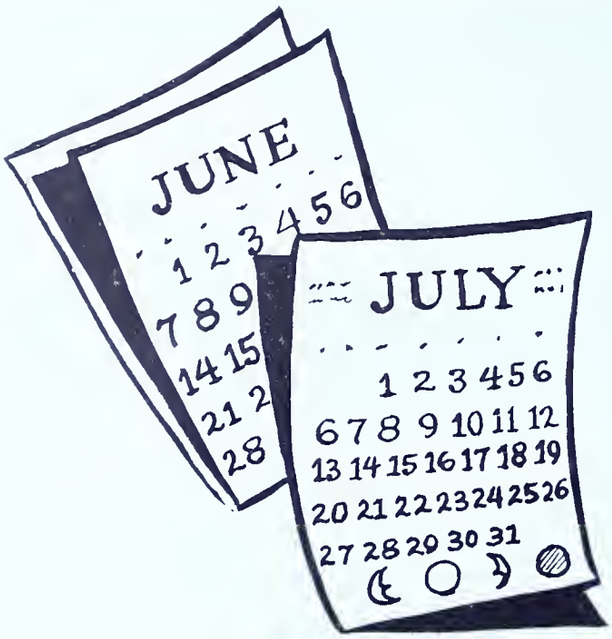
Above: Note the long, emaciated body of the trout and its head, out of proportion to its size. The fish was 26 inches in length but weighed only 2½ pounds.

Right: There was no indication of deformity or disease in the gaping mouth of the trout.

Above: Pathologist Arthur Bradford begins the post-mortem.

Left: Examination of the gill filaments produced unmistakable signs of wear.

Right: Internal organs of the dead trout were flabby and degenerated.



LATE SEASO

"WHEN a late season drought shrinks the water in the big pools and makes them cobbles along the edge hotter than the paving of hades there aint much a man can do about fishing except keep cool and whistle for rain. I've done a heap of whistling the past two weeks and now we'll see whether its going to pay off or just be a hisser."

Mak's pipe glowed in the eerie darkness and his canvas camp chair creaked as he shifted his weight to a more comfortable position. I tilted my chair and leaned a shoulder against the cool masonry of Kabibonokla and watched the skyline of Baugher Ridge. The black breathlessness that preceded the storm pushed in upon us until it began to be oppressive. Less than a half hour before I beat a hurried retreat from the Twin Birch Pool below and climbed the steep path to the security of the porch of Mak's camp. Perspiration beaded my forehead and the dampness of my trousers indicated the limits of recently discarded hip boots.

"Your puffin' like a steam engine, soft living and lack of exercise will do that to you. It's a good thing you like trout fishing or you wouldn't amount to as much as a burnt match stick." Mak chuckled and waved his pipe in my direction.

"You'll be cooler in a minute unless I mistake. Listen, it's raining up the valley." I strained my ears and finally made out the growing roar of the rain.

A roar and a jagged flash of three pronged lightning hit the Baugher Point across the valley so clearly that for a moment the fire scarred pine stood out sharply against the dark. The first heavy drops splashed the porch roof and brought the first hint of coolness.

"We'll have some fun tomorrow if we work those deep slow pools with a small streamer just after daylight," said Mak as he moved his chair back beside mine. "That rain's going to splash a little fresh water through the gills of some of them nice ones that hang around so long they think the whole creek belongs to them. You know a lot of experts tell you lat season is dry fly time and so it is you run into one of the hatche They're really few and far between an the trout that feed on 'em are usuall small to medium. Once in a whil you'll turn up a real trout but mo will be just eatin' size."

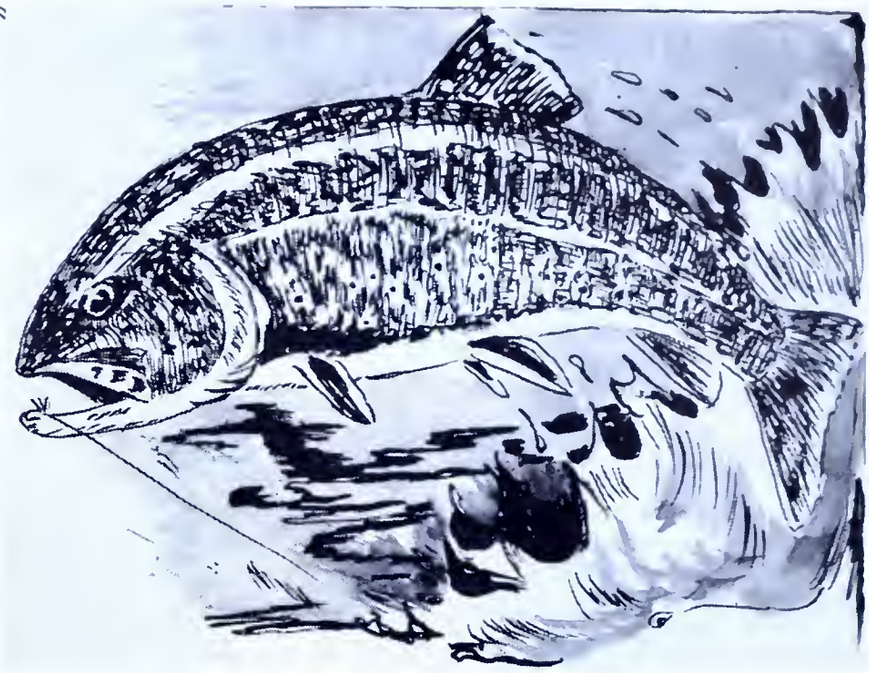
The first fury of wind and rai passed and then came the steady bea of rain with its accompanying fire works that lit the surrounding hil momentarily. Mak puffed slowly o his pipe and as the lightning flickere back and forth it showed the kee pleasure he had in watching the storm

"Don't let me forget to show you th pictures that Si took last summe when he was up." You remember m telling you about Si? His name Sylvester and he's a professor of B ology some where in a little schoo Brought his camera and one nigh when we had a storm like this h rigged it up right here on the porc and let the lightning take its own pic

Late June and July signal the end of another trout season. With reluctance the veteran bids farewell to his favorite stream now growing old, low and clear reflecting the jagged summer lightning.

TROUT

By Albert G. Shimmel



re so he said. Used 'em in his work. I wondered what any one would want ith a picture of lightning and got askin' so many questions he finally omised to send me a set of them. ut what I was gettin' around to sayin' as that he had a gadget called a pth-o plug or some such name that s a thermometer and a thing to tell w deep the water is. You just hook r on your leader and swing out and t'er sink. Then you pull and in it lls how cold and deep the water is l at once. Well when he sent the ctures of the lightning he sent me e of them too. You know how arned curious I am. I got to fooling ound with it and found them places here I got good trout in late season ere the coolest places in the creek. ot of 'em have springs that come in om the bottom 'cause there is no gns of 'em on the surface. Some of m don't seem to ever get any hatches amount to much and even when ey do you don't see any trout exept maybe a couple of little ones way down at the tail of the pools. Don't know how long it took me to figger that the biggest trout would pick the deepest and coolest place and keep the other ones out. Bein' big he'd want his meat in good sized chunks and don't want to fool around pickin' it off the top one fly at a time. I like to take my trout on artificials so the answer seemed to be big streamers with lots of weight to take 'em down, or wait 'til after dark and try to take 'em just under the surface."

The rain subsided to a light patter and the dripping evergreens and birches looked fresher as the lightning flickered distantly to the east. Soon an occasional star showed faintly through the broken cloud patches.

"Of course there are exceptions to all rules and I guess it's an accident that I took the nicest trout of last season. Rained a hard shower sometime after midnight and when I heard it I made up my mind to work Big Rock, Red Bank and Twin Birch pools just at dawn with that little Light Tiger streamer and maybe get me a good trout or two. Well now when I hit Big Rock and it got light enough to see derned if the water wasn't a might cloudy. I found out later that "Muff Potter" the forest ranger had drug the forest roads up near Twelve Mile and the run off had clouded the creek. Well I tried it a while and got a couple about a pound each. Turned 'em back but didn't come near anything bigger. Decided to go up to Red Bank where the Spring Run comes in and see if I couldn't get the Boss to look at my feathers. Maybe it would be clearer up there because of the spring water.

"In that flat we always pass up because it looks so shallow I noticed a

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PENNSYLVANIA FISH COMMISSION STOCKS *"PARADISE"* FOR KOREAN CASUALTIES

By Ellen A. Dietrich

Photos By
George Gordon
Official Photographer
Penna. Fish Commission

FIGHTING men who are recuperating in the Valley Forge Army Hospital from injuries and wounds suffered in the conflict in Korea are enjoying a fishing "paradise" of their very own as a result of the generosity and interest of a Phoenixville physician, Dr. J. E. Gotwals, and his wife, with the wholehearted cooperation of the Pennsylvania Fish Commission. This pond, which is located at Kimberton not very far from the big military hospital, has been opened to the casualties.

The Pennsylvania Fish Commission intends to continue their part of this program with the cooperation of the Valley Forge Hospital and Dr. Gotwals as long as wounded soldiers are being treated at this hospital. This same project was carried on for casualties of World War II during the years 1945 to 1949.

Fish Commission Warden Horace Pyle of Coatesville, Capt. Kenneth C. Hill, special services officer of the hospital, and Sgt. Joseph Adler, a member of the hospital staff in charge of special services, are supervising the program. Sgt. Adler's principal job is to insruct the casualties in the art of trout fishing and otherwise to help them enjoy the sport.

The tackle used by the service men is donated by individuals and organizations that have become interested in the project.

Each service man is permitted to keep one fish, although he may catch as many as he can, on each visit to his very own "paradise." Casualties who are able to leave the

(*Turn to page* 26)

Above: A fish truck arrives. Under the direction of Chester County Fish Warden Horace Pyle (extreme right) trout are transferred to the lake by members of the hospital staff.

At Right: Dr. and Mrs. J. Elmer Gotwals of Phoenixville, who turned over the lake at their summer residence in Kimberton for the fishing project.

Below: Captain Kenneth C. Hill, Special Service Officer at the hospital, carefully lowers a netful of beauties into the lake while vets make ready their tackle.

Below, the sign means just what it reads: "Public Fishing Prohibited." The project, the first of its kind set up by the Pennsylvania Fish Commission during World War II, was recently re-opened for veterans of the Korean War. It is well stocked with trout and protected for enjoyment of patients of the Valley Forge Army Hospital, Phoenixville, Pa.

Above: Nurse Frances Vandiver of Anderson, South Carolina, baits a hook for Sgt. Carl McCaslin of Athens, Tennessee, whose right arm is in a cast.

How about a bite, fellas?

Cpl. Albert Strong fishes hard.

At right: Even the blind fish at the hospital pond! Nurse Alice M. Hilland of North Easton, Massachusetts, nets a large trout that blind vet Mike M. Torrez of Long Branch, New Jersey, has just reeled in. Fish Warden Horace Pyle looks on. →

Below: Recuperating veterans, some new and some expert at the art of angling, line up round the lake, as Chester County Fish Warden Horace Pyle (center) inspects rods, reels, lines, hooks and sinkers that have been put together by (left to right) Pfc. Teddy Schteiden of Philipsburg, Pa., Sgt. Carl McCaslin of Athens, Tennessee and Pvt. Pete Capataides from Ambridge, Pa.

Cpl. Nelson Giorgi gets a "birdie."

EXPERIMENT WITH NYMPHS

By John H. Fisher

Coming right along in the scheme of trout fishing is the nymph artist with his weird collection of underwater bugs, some of which would delight the fancy of a Zombie. Nevertheless, the nymphs do business, better look 'em over.

SINCE the beginning of time man has been experimenting with all manner of contraptions in order to find the best article to suit his needs. He has always, so to speak, tried to build a better mousetrap. So it goes with the trout fisherman. We all have bought and made trout flies by the gross, striving to find just the right pattern that would prove to be a killer. Many flies are made to catch fishermen instead of fish. I found that out after being caught quite a few times. I'm sure every fisherman has experienced this more times than he will care to state.

Two years ago, having decided that I was being caught by these fancy flies (and not catching many fish in the process), I decided to do a little experimenting of my own. On our fishing trips, I started turning rocks over to locate the many varieties of nymphs that trout feed on. Anyone following me along the creek must have wondered what I was up to, but I didn't care. I was after information and some nymphs. I returned home after each fishing trip with a small bottle containing a few specimens of stream life. These bottles were placed on my fly-tying desk. From that day on, my wife never purloined any of my feathers for use on her hats. She said she just couldn't stand being near those "Bugs!" as she puts it.

After studying the nymphs for some time and trying to figure out some way to imitate them, yet keeping the tying of them as simple as possible, I finally came up with a pattern made of light brown raffia grass, flattened body, brown tail, and no hackle. These nymphs were tried one whole summer on the Brodheads Creek in northeastern Pennsylvania. They caught fish, but not consistently. Still not being satisfied, I added grey hackle to th nymphs. Still they were not goo producers.

I didn't throw many fish back be cause I wasn't able to catch many. M wife often asked why I spent so muc time fishing and brought so few trou home to eat. I had to admit that hadn't been able to find the righ nymphs as yet.

Throughout the next winter, severa different patterns were produced When spring arrived, everything wa ready to try the new nymphs.

It was opening day—cold as usua and windy. For some reason it didn' rain (as it usually does). Several dif ferent nymphs were tried. All wer fished deep, but nothing happened. N fish, not even a strike! Was I goin home again without even one fish? Al kinds of patterns were tried, brow tails, brown body with hackle an without hackle, black backs and yel low bodies. None caught fish.

So, home I went. My wife asked "Where are the fish?" Hating to admi defeat, I told her that it was so col that I didn't feel like cleaning any fis along the stream, so I threw them bac whenever one was landed.

The next weekend Bill called an suggested that we try the Brodheads

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THE BEAUTIFUL BUSHKILL

By Pvt. Robert L. Rineard
U. S. Air Force

Many anglers like picturesque streams. The Bushkill will please the most discriminating angler with its versatile meanderings through beautiful scenic eastern Pennsylvania.

F ALL my fishing trips of last spring and summer, one of the ost interesting and beautiful was that ng to be remembered trip to the mous Bushkill. The Bushkill is a cturesque trout stream located in the rtheastern part of Pennsylvania. It ills through the awe-inspiring mountains and forests of Pike and Monroe unties.

Some of the stream is privately vned, but to those who are filled with e fire of exploration and toil, there e some sections open to fishing. Fishg of a very excellent nature at that. e stream itself is one of unsurpassed auty.

My fishing companions (par excelnce) Bill and Charles Dodson had ng told me of the great trout fishing at the Bushkill had to offer. Early February of 1950 they had purased in Philadelphia a "Carryall amper," a portable trailer.

All through February and March nstant work and plans were made r the coming trips in trout season d especially the trip to the Bushkill. arly in the season we made a test n to Kettle Creek in Potter County. lthough we didn't catch many trout e saw lots of game and glimpsed some Pennsylvania's finest fishing and unting country.

During our trip to Potter County we und the trailer operated very satisctorily although it was a little cool e first night. The temperature outde was down to about 26 degrees. hus, we felt we were equipped for the ip to the Bushkill after this test.

Finally, after many pleasant local trips astream in April, Charles, who is our guide on these jaunts into the Pennsylvania bush country, told Bill and me that he received word the Bushkill was ready for some serious fishing. On Friday night, May 12, 1950, we gathered together our food and equipment and headed for the famous Bushkill.

Our favorite bait is minnows. We had the usual bucket of them in the back seat nestled between my feet and the floor. Minnows are precious as gold and require cool, fresh water to keep alive in warm weather. When we were well on our way, I glanced into the bucket and yelled, "Hey, Bill, we've got to find some fresh water—quick!" Immediately all eyes scanned the darkness for a suitable stream.

Since we were passing through a section where pure stream water is scarce, we resorted to pulling into a roadside bar. Charles and I, in our heavy boots, clomped into the bar room with the sloshing bucket of sick minnows.

The customers strained their eyes at the strange pair. With permission of the bartender, I set the bucket under the faucet and turned on the water. One curious woman, eyeing me suspiciously, leaned over the bar and peered into the bucket. Thanking the proprietor, we made our exit amid curious glances and amused chuckles. Luckily, we found a stream a few miles up the road and gave the minnows some really fresh water.

As we were crossing a bridge, Charles called a halt saying, "Okay, men, get out and take your first look at the Bushkill." It didn't look like the stream that had been described to me,

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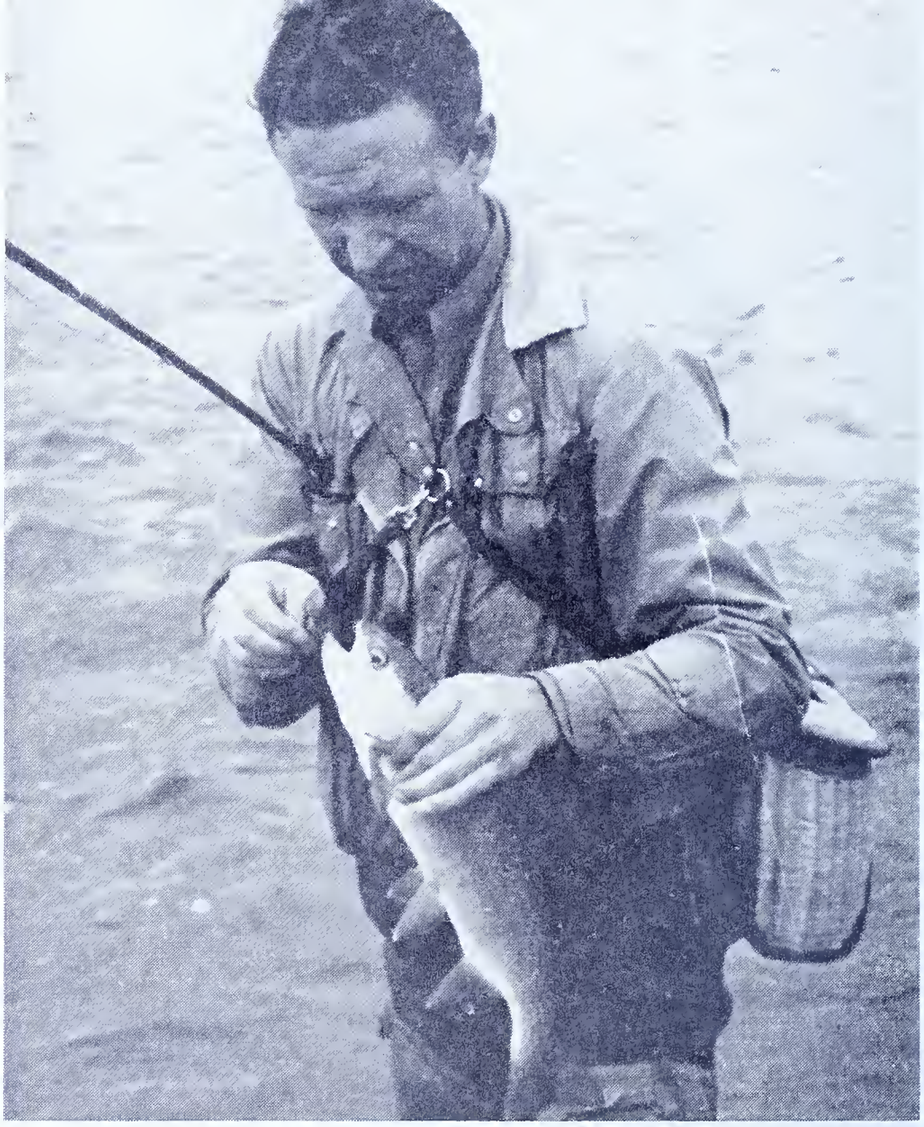

Company Manners

By N. R. Casillo

Much has been said and written about the Slippery Rock, a magnificent stream of western Pennsylvania. Though not famous like the Neversink, Beaverkill and others, it has a broad back and is hefty through the thighs. It's a man's stream!

A PENNSYLVANIA stream praised by a topnotch fisherman hailing from a land where top trout fishing in superlative streams is the rule, was high compliment, indeed.

As we stood there deep down in the ravine below Kennedy's Mills, the angler from Colorado gazed up and down that magnificent half-mile stretch of the Slippery Rock and all but broke into lusty cheers.

"What about the fishing?" he finally inquired.

I braced myself. "Well, it's——," I started, but never finished.

"Look over there," he explosively interrupted, pointing to a patch of white water which eventually fanned out into a smooth slick within easy casting distance of where we stood. "That's a natural for a big rainbow. And there, and there, and—," he pointed in quick succession from one hot spot to another. "This beats anything I ever saw," he fervently concluded.

I said nothing. Indeed, what was there to say that would add to the enthusiasm of my guest? Any statement on my part would be like gilding the lily.

It is difficult to "type" the Slippery Rock. The various ravines occurring at intervals along its course in both Butler and Lawrence counties have scenery of a type which a stranger in these parts would wager does not exist in Pennsylvania—except that it does.

I have often sat on a great rock at the so-called Narrows a short distance downstream from Kennedy's and imagined myself in any number of far-off places. The lush, green canyons of the northwest, the wooded gorges with their tumbling rivers, so typical of Labrador, the friendly flumes of New Hampshire are but a few of them. Yet, there is something else, too, an indefinable character that stamps it at once as western Pennsylvania.

On the following morning when my Colorado friend entrained for home it was with the resolve to some day return for a stay long enough to enable him to fish the Slippery Rock. I smiled tolerantly as I bade him Godspeed. With some of the continent's best trout streams at his disposal he would promptly forget the Slippery Rock. Anyway, my thanks went with him.

Some fishermen are fortunate enough to satisfy their every whim and desire, others live in hope, and dream on. My Colorado friend, one, Harry Short, must be classed with the former. Last year, shortly after the season's opening he returned to fulfill that promise he had made to himself.

The types of trout fishermen are legion, but for our convenience they may be divided into three groups. First on the list are those who get out unfailingly on the opening day and perhaps, once or twice again during the ensuing ten-days or two weeks, with the avowed purpose of catching trout. Most of them are what can be termed "quickie" fishermen. Then, there are those who try trout fishing because they want to get the cobwebs of a confining winter cleared out of their systems. The third group consists of devout trouters who consistently and more or less regularly fish the entire season's length because they like the sport. The latter is outnumbered by the others, oh, let's guess 500 to 1.

When Harry Short arrived, the streams hereabouts were devoid of the first two classes of fishermen and i may be added, of practically all of the trout. Accordingly, the anglers comprising group #3 brought in an occasional catch. One lucky or to be more magnanimous, we should say, skilled fisherman, brought in an extraordinary catch; a fine layout of four handsome rainbows and as many equally handsome browns.

The report leaked out that the string was taken from the Slippery Rock which it was. For a couple of days or so after that, the stream was over-run

a bevy of opportunists and those of milar ilk. Strange how such yarns ill give the sagging sport a shot in the m. Harry and I invaded the river day or two after the flurry of excement.

Practically every foot of the Slippery Rock is too deep to wade. Oh, ere are occasional spots like gradually sloping points or bars or even ndy spits, which may be negotiated, it they are so rare as to be negligible. When an unwary person steps off rock, even from one that is adjacent the banks, he is likely to make a onstop descent of fifteen or more feet. he wise fisherman steers clear of ots and other impediments that are kely to cramp his style. And take it om those who know, the stream has ore than one slippery rock. For asons that are all too obvious, there e fishermen who assiduously avoid e stream after nightfall.

Harry specifically expressed his dere to return to Kennedy's Mills. "I ant to drop a streamer into that white ater and then work it through the slick below it," was the way he put it.

On this occasion there was more white water than is usually the case and the slick had developed into a kind of a swift run, its striated surface looking as though it was trying mightily to restrain itself. Periodically, a watery curl would daringly strike upward only to as quickly subside. Things didn't look at all promising.

"Now, watch this," directed Harry as he limbered his casting arm with a couple of false casts. I good-naturedly suspended activities to watch the superb performance. Harry can handle yards of line and do it with the grace and finesse of a rattlesnake's strike. And like the rattler he nearly always hits his objective.

The line glided oilily through the air as effortlessly as a swallow's flight. The half S straightened out with a motion that can best be described as indolent, and the streamer settled on the white water. It danced over the crests of three or four white fanged waves before it hit the slick. By that time the fisherman had it under perfect control, the lure sort of ducking under as he lowered the rod tip. It was a masterful performance.

The streamer had traveled less than a yard when Harry struck sharply. Response was instantaneous, a sizeable rainbow arching from its element to go careening across the heavy flow toward the opposite bank. Harry snubbed it and then led the aroused fish into the quick reaches of a pool some yards downstream. After the fish had exhausted its energies with three more vigorous leaps, he came in docilely enough. A few moments later Harry held up the thirteen-inch specimen for me to admire.

"Nice fish," I grinned. Secretly, I could have hugged that rainbow.

"Not bad," Harry grinned back. "Let's have a smoke."

"Not a bad idea," I said as I sat on a rock beside him. No use pushing our luck too fast, I thought.

After stamping out his butt Harry picked up his rod to once again lay the streamer on precisely the same spot. Well, the same thing happened; a trout nabbed the lure, leaping in an attempt to throw it, and then came to terms in the comparatively quiet pool. Harry held up another thirteen-incher.

After throwing him another approving grin I fired up again, this time my pipe. Good old Slippery Rock, I quietly rejoiced, maybe I wouldn't need the alibis I had cooked up.

"Here, aren't you going to fish?" asked the delighted fisherman even as I settled back against a convenient log.

"Why, sure, of course, after I finish my smoke."

"You can try a cast out there while we're waiting," he urged.

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Upper Left—Occasionally the Slippery Rock will come up with a beauty like this rainbow.

Above—Dozens of fine tributaries flow in the Slippery Rock. This one forms the well-known Breakneck Falls below Eckert's Bridge.

Right—A typical April scene on the Slippery Rock below Kennedy's Mills.

Learning From an Old Timer

By Thad A. Bukowski

Sometimes the best fisherman isn't the one who has the newest ideas, but the one who has the most fishing savvy. And when it concerns trout that's doubly true.

AS TROUT fishermen go, Dee Emerick was supposed to be a practical one almost *par excellence*. And it wasn't because he was the inveterate user of the various, sundry, and exceptional examples of feathers and steel, the things that we so commonly associate with the typically pictured piscatorial wonder, but because he knew how to go after trout, with what, and when.

I became associated with Dee as a fisherman at one of the monthly clambakes where a number of us participated. In the company of friends, some delicatessen delights, accompanied by moderate but appropriate quaffs of good cheer, in the presence of some rapidly moving pasteboards, we would delight in swapping outdoor yarns most of the night, either of the big fish that got away or the bigger ones that didn't. And as evenings waned, on such occasions, arms would become sore from stretching and the first man who told a story never had a chance.

All such reminiscence was and is wonderful because it is not only relaxing but also makes friends. After Dee had spun a yarn, I gave expression to my thoughts and mentioned that I would like to participate in a fishing venture with him to improve my not only indifferent and haphazard, but also generally unrewarding previous trouting attempts. He agreed that we should get together.

One particularly tempting afternoon, when the wind seemed just right, and the information came to me that the Pennsylvania Fish Commission had stocked the upper reaches of the Little Neshannock in Mercer County, with what seemed uncountable numbers of trout, I got in touch with Dee via the phone. He was at work but promised to be ready the latter part of the afternoon.

"What preparations?" I asked over the phone. "Do we need any bait?"

"Just minnows, Ted," he replied in his casual drawl. "They'll hit them quicker than anything else. Especially this time of the year."

"Okay," I answered, and spent the next two hours in application of his request. I took the car over Painter Hill from the place where I live at Walmo in the search of some of the live morsels. Up to this time I had fished very little with minnows for trout, just as the average anglewormer, and was a bit dubious that other than a large sized denizen wou hit a minnow unless fostered by ravenous appetite.

Four o'clock arrived and Dee wa in my driveway. With him arrive Coke Aiken, another inveterat trouter. After making acquaintance, settled the minnows and my gear in Dee's combination car and campin unit and we were off for the six seven miles that would lead us to th stream.

Parking our car near one of th numerous farms we set up our gea Dee turned to me and asked, "Eve use the spinning minnow, Ted?" I wa perplexed. I looked not only dumb founded but actually ignorant.

"N-no," I finally stammered. "I'v heard of it often enough but actuall never learned the details."

"Let's see your leader," Dee the remarked. I passed over my rod, wit its fine tapered leader, set up so car fully in compliance with all the calcu lations of experts, and immediatel winced in mock anger as Dee spok with emphasis.

"Ted, that'll never do," he said. 'You can't use that leader with the innows the way they're most fective."

"No?" I gave him a quizzical look inquiry.

"No!" he added with vehemence. 'You'll have to use heavier stuff. bout eight pounds. Got any?" he quired as he began handling my rod.

I reached into my clothing to pick ut the desired leader, but before I uld bring it forth Dee withdrew out eight feet from a container of is and began attaching it to the end my heavy line.

"Take about so much of it," he said unning a length of it down the pole om the tip to the upper cork handle, and slap a swivel onto it. Then add out another foot below the swivel. hen the bait, and the hook, and that's l there is to it," he finally concluded.

I complied, as Dee passed my rod ack and I had my gear set up but for e hook when Dee added after he ad set up his own equipment. "Now ke the leader, Ted," he said, "and read a minnow onto it from mouth belly, and then tie this double hook, nd pull it up into the minnow's belly. hat'll hump it, and that's what makes e minnow spin."

"A miserable way to treat a min-ow," I commented, as I looked at the eaten specimen which rested, hung, utchered, and practically decapitated, t the extremity of my line.

"But that's what the trout take. 'ou'll see," Dee remarked signifi-antly.

I was still puzzled. "And if and when trout takes the minnow?" I asked. I guess I continue this process of utchery, and liquidating of minnows ven before they get into the water?"

"If that's what you call it," Dee aid, "Okay." Coke Aiken laughed and dded, "Yessir, new minnow, new hread job, new hook, and maybe new rout."

"Sounds like a lot of trouble," I con-luded wistfully, thinking of the work head of me and shaking my head, but hen I added "I'm game."

We headed for a tangle of growth eside the creek which included elm, villow and alder, and began our four r five hour stay on the stream. The vater was excellent, in the heavy iffles showing up almost a murky green, not too heavy and neither too clear. Because it was Spring it was a ittle high but that was to our advan-age, for the creek ordinarily ran on he small side.

I stood for a moment on the bank ear one of the many pools which eddied in semicircle into overhung banks of clod and brush and wet my dry lips in anticipation. The air was damp, the rush to the stream had winded me a bit, so I sucked in its clear green-fragrant and fresh-flowered scents and finally heaved a restful sigh as I swirled my minnow out carefully among the bramble on each side of the stream. It dropped into the water on the far side. The current snatched at my line nearest my rod and as it sped past it swept the line downstream with the minnow at the end following like some poor soul at the end of a game of "Crack-o-the-whip." It fell with a rush into the water under the bank and I retrieved slowly. Presently the minnow appeared from underneath the bank and I could see its silvery sides whirling in most seductive manner. I awaited for the strike but none came. Nevertheless, I was pleased with its action and admitted to myself that here was a new opportunity in my trout fishing which I would explore to the fullest extent on succeeding trips. I plied the waters a few more times admiring the action of the minnow and then headed downstream.

A short distance further down the water rushed in rapid descent and oxbowed into a pool which extended so far to the left in a quick swirl that it was not only hard to see but hard to fish. I pulled up my boots and waded into the current on the inner side of the turn. Dropping my minnow into the riffles near me, I let it float rapidly on a natural course following the water as it rolled and upwelled in the semi-whirlpool that made the deep hole in which I had become so interested. As the minnow reached the end of its course, I lifted my rod slightly and observed excitedly the immediate silvery whirl of the bait. With the instant the minnow rose to the surface there was a vicious dimpling of water as a trout struck savagely. Excitedly I tried to set the hook. The minnow flew out of the water and I narrowly missed snaring my line in the tangle along the stream. My pole became entangled with my line and with difficulty I cleared it using fingers that seemed incapable of accomplishing anything. Then I again set the minnow to floating down the riffle. This time I was set. I let the minnow carry a bit farther into slower water so that the trout could affect a better strike if it should again be inclined to hit. The fish hadn't seen me as yet and I was almost sure of another rise. I settled the minnow gently then gave the rod tip a flick or two.

Immediately there was a vicious snap again and I set the hook. The dandy trout headed for the brush, and I was hard put to keep it from entanglement but finally managed to land a one foot brown.

I admired it as it rested in my hand and tried to disengage the deeply embedded hook, for the trout had hit with the characteristic gulp of its clan.

"So that's how the spinning minnow gets them?" I mused as I cut the leader, threaded another minnow, and tied the hook. I waded into my precarious position in the water again but fruitlessly tried for more trout.

Making my descent a little later again down the stream I met Coke and Dee working their minnows in successively close pools.

"Are you sure those trout were stocked here?" Dee called out. "Seems like we ought to be getting a few strikes by now."

"Well, I got one," I proudly announced and displayed the brown.

Dee laughed. "Told you that minnow would capture them. But it should be doing a lot better," he added.

Apparently Dee had cause for comment, for we seemed to be fishing the unstocked part of the local stream. Throughout, the action was very slow and save for a few more rises which we couldn't manage to get hold of, we were unsuccessful. Darkness was approaching when we put away our gear about two miles downstream and began an uncomfortable journey back to our car. Mosquitos bit unmercifully and the berry tangle through which we slogged snagged our clothing and cut into our arms.

"Oh, well," I philosophically expressed, "I really learned something."

"I did too," Dee commented ruefully. "I learned that we weren't on the right part of the stream."

We got into our car and followed the road to its termination as it coursed along the upper reaches of the Neshannock. Two rabbits blocked our way at one place or another and we were surprised to see a grouse first run and then fly across our road path.

"A woodcock," yelled Coke. "Isn't it?" he added questioningly. "Or grouse "

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Excerpts from the Minutes of the Meeting of the Pennsylvania Fish Commission Held April 21, 1951

Appointment of Regular Warden

Mr. Kenneth G. Corey, Middleburg, Pa., was appointed as the regular warden for Snyder County.

Rules and Regulations Governing Bait-Fish, Relative to Live-Bait—1951

The Pennsylvania Fish Commission has set up the following rules and regulations on bait-fish and fish-bait:

SPECIAL NOTICE—UNDER NEW AMENDMENT TO THE FISH LAW NO FISHING IS PERMITTED IN ANY WATERS FROM MIDNIGHT MARCH 14th TO 5:00 A.M., APRIL 15th. THIS AMENDMENT PROHIBITS TAKING BAIT-FISH OR FISH-BAIT DURING THAT PERIOD, EXCEPT IN RIVERS, LAKES, AND PONDS NOT STOCKED WITH TROUT.

Bait-fish or fish-bait taken from our inland waters *CANNOT BE SOLD* within the Commonwealth or transported outside the confines of the Commonwealth for sale. This ruling does not prevent a fisherman from taking his own bait from public waters, but under the law he cannot have more than thirty-five (35) bait-fish or thirty-five (35) fish-bait, or fifty (50) of the combined species unless purchased from a Commercial Dealer who operates under a license issued by the Commission, or from a dealer who has purchased them from a Commercial Hatchery.

Every minnow box anchored in a stream, pond, lake, or place of residence must have attached thereto the owner's name and address and fishing license number. If maintained by more than one person, it must be in sections and each section must have owner's name and address and license number.

Pennsylvania fishermen are also permitted to take bait on a fishing trip either within or without the State provided the possession limit is not exceeded and the bait are for his own use. If there is more than one fisherman, bait must be in separate containers or a divided minnow box or bucket.

Sunday Fishing for Fish-Bait or Bait-Fish

Under an amendment to the Sunday Fishing Law, bait-fish or fish-bait may be taken on Sunday with the same devices used on week-days, i.e. two rods and two lines with not more than three (3) hooks attached to each line; a dip-net or minnow seine not over four (4) feet square or four (4) feet in diameter; a minnow trap with not more than two (2) openings which shall not exceed one (1) inch in diameter. The rods, hooks, and lines must be under the immediate control of the persons using the same.

SPECIAL NOTICE

Bait Imported into Pennsylvania

No person or persons are permitted to bring bait-fish or fish-bait into Pennsylvania for resale without first securing a permit issued by the Pennsylvania Fish Commission, Harrisburg, Pa. In making a request for a permit, all persons must supply the Commission with the name and address of the person or dealer from whom bait-fish or fish-bait are to be purchased, species of bait they desire to transport, number, place of business where fish will be resold, etc. Dealers must keep a record of all fish or fish-bait purchased under their permit and copies of bill of sale to individual fishermen which must check with purchases made.

Special Regulations on Streams

It was agreed that where requests are received from clubs or associations setting up special regulations or restrictions on streams or portions of streams, that it will be the policy of the Commission that those making the request call a special meeting at which time a representative of the Fish Commission will be present. After a decision is reached, a certified copy of the minutes is to be sent to the Commission with a record of the vote as to whether or not special regulations were suggested.

Action will then be taken by the Commission as to whether or not the regulations can be approved.

Schuylkill Canal

The Department of Forests and Waters turned over to the Fish Commission, the portion of the Schuylkill Canal in the vicinity of Five Locks, located south of Hamburg, Pa., as a fishing area.

Pennsylvania Conservation Laboratory for Teachers

The Commission again contributed $250 towards the support of the Conservation Education Laboratory for Teachers to be held at the Pennsylvania State College during the summer of 1951.

Know Your Friend . . . The Warden

CHARLES V. LONG
Juniata and Perry Counties

Warden Long held a special commission in 1929, 30 and 31 before he became a regular Warden on April 1, 1932. When first employed, he was assigned three counties: Perry, Juniata and Mifflin, also participated in many assignments over the south central portion of the state. He makes his headquarters in East Waterford, is unmarried, but is endowed with an excellent sense of humor.

JAMES H. BANNING
Fayette County

James Banning became a regular Warden with the Fish Commission on April 1, 1933, one of the oldest in point of service in the field. He lives at 1003 Grandview Avenue in Connellsville with his wife and two daughters, Dorothy Jane and Mary Ann. Provided with excellent secretaries thus, Warden Banning has an opportunity to spend more time in the field helping to solve the many conservation problems in his area.

Company Manners

(*From page* 19)

With feigned enthusiasm I arose, nocked the dottle out of my pipe and cked up my tackle. Since his pre-ous visit I had fished that slick so any times as to lose count. What more, my efforts availed me abso-tely nothing. That had always been naracteristic of the stream; results or ore properly, the lack of them, be-ing its superb appearance. But, who nows, I thought, maybe the stream ad in some mysterious way assumed ne role consistent with its appearance.

"That's it," approvingly observed my ompanion as my hair fly settled on hat had thus far proved a hot spot.

I merely grunted as I tightened up n the line to maneuver the fly over ne approved route. It was too much hope to emulate my companion's erformance, nevertheless I prepared or come what may. And it did, in recisely the same manner that it efell Harry, although the fish was a nade smaller, measuring an even foot. Iarry even overlooked the surprised hoop I uttered when the fish flashed ut of the water.

By the time we reached the Nar-ows, a mere two-hundred feet far-ner, we had each accounted for four-eet, two-inches of fish adding up to total of eight rainbows. I readily ssented to Harry's suggestion to call-ng it a day. We had more than we eeded for a sumptuous fish dinner.

What about the two subsequent rays during Harry's visit? Well, the tream did not exactly revert to its ormer implacable self, but we did not o as well as we had on that initial rip.

Can the usual inaction be blamed n the stream or on its temperamental enizens? Let us reiterate that the lippery Rock is larger than most rout streams in these and other parts. Also, it is probably deeper than any ther stream of similar size which I ave ever fished. Its water volume quals that of many famous trout ivers such as the Manistee, Pere Marquette, Neversink, Madison and thers. It could easily support ten imes the number of fish than that vith which it is ordinarily stocked. Then, too, as soon as they are stocked hey lose no time in scattering them-elves over its considerable length.

There is only one drawback to eavier stocking and that is the specter f pollution. Extraordinarily high vater might invade abandoned coal nines and later come out laden with he concentrated poisons usually found n such places. Even as recently as this spring, pollution and dead fish were reported. Fortunately, the report proved false.

Stabilize the Slippery Rock and it will become one of the Commonwealth's top trout streams.

The Beautiful Bushkill

From page 17)

but I told myself that here it was out of the mountains and the rushing waters had calmed down a bit.

After a lot of debating and consulting maps about the right turnoff, we set off into the mountains. Halfway up the mountain we stopped again, and lo and behold our guide seemed to be in a fog! Charles always did a good job on these trips, but there had been times when we wound up lost at some uncomfortable hour on top of a lonely mountain. After some time, we passed a landmark which was familiar to Charles, who assured us that we were on the right road.

I hoped Charles was right. The country was getting wilder by the minute with the woods closing in on us. We were on top of the mountain by this time. The road was a single track, rough dirt path hemmed in on both sides by a dense growth of laurel and ground oak.

Stopping again Charles and I sauntered down the road with our five-cell flashlights searching for a suitable camping area. We soon discovered the perfect set-up in an abandoned field with a wonderful spring nearby.

By two A.M. we hit the sack after unhitching the trailer and setting up our equipment. At dawn we awoke to a breathtaking view of the rugged country seen from our camp on the mountain top. We ate breakfast, set up our tackle and headed eagerly down the side of the mountain to our long sought objective—the Bushkill!

It was a tough descent going almost on the vertical. I had unpleasant visions of the climb back in the evening which soon left me as we neared the rushing, roaring stream.

I doubt if Bill and I will ever forget that first view from the cliff. We looked down on a wild raging channel of pure water which was everything and more than Charles said it was. But this was just a view—the best was yet to come in some real fishing.

Since Charles was meeting the fourth member of our party downstream, Bill and I set off upstream, planning to meet for dinner around one o'clock. When we rounded the first bend, I waded out into a swift run and ran my minnow down behind a large rock. Wham! A strike! I was fast to a nice fish. To my surprise, however, I found that it wasn't a trout but a fallfish, about 12 inches. I promptly released the fish and tried again. Having no luck I moved upstream.

Bill, who later caught up to me, had switched to wet flies. We were approaching what is known as the "big pool." Sitting down for a smoke here we studied the pool for rises and activity. We didn't see a rise so Bill decided on a new angle. He produced a spinning rod and set it up with a small flatfish lure.

Taking a position on a huge boulder at the head of the pool, he cast across current and began taking retrieve. Suddenly the whole pool exploded with spray and we knew that he had latched on to something good. Putting aside my own rod I shouted encouragement to Bill who almost tumbled off the rock when a beautiful brown jumped clear off the surface displaying himself for the first time. When he was finally brought to net, he measured a full 14 inches of native fury. We were both impressed, and sat down for a comforting smoke to discuss this thrilling catch.

In late afternoon we tried our luck again at the big pool with dry flies. Although we didn't raise a trout we did have fun with the fallfish and the sunfish.

Back at the trailer we rustled up our supper and then carefully placed the Brown under a big rock in the spring for safe keeping. It was an unusually cold and deep spring. After we retired all was quiet until Bill began mumbling something about, "Gotta' level this darned thing up." That big trout must have been on his mind all night.

Sunday morning was just as beautiful as Saturday. We were enjoying the scenery and leisurely getting breakfast when someone discovered it. The big trout was gone! Investigating we found that during the night a coon had stolen the fish. The strange part about it was that he left the two smaller fish we had caught and had taken the choice one. We decided that coons aren't dumb by a longshot.

We spent the remainder of the day fishing several of the big pools down stream. Ken produced one or two smaller trout, but the big fish were not on the move.

We pulled off the stream early in the evening to get an early start back to Harrisburg. I knew it wouldn't be easy to convince anyone about that dandy Brown, because I hadn't taken a picture of it.

Thus we ended our two days on the Bushkill promising ourselves that we would return to fish it again and to enjoy the unsurpassable scenery. However, the next time, we're going to be on the lookout for a certain "Mr. Coon."

Saving Our Fishing Waters

(*From page* 3)

realization by industry that polluted waters are a liability to our mode of life will also in time restore many miles and acres of these losses to the trout fisherman.

Posting by individuals and clubs has likewise taken many miles of the major waters of the state; and, if and when additional water areas are made suitable for trout, there is nothing at the present time to prevent individuals or clubs from acquiring these and depriving the public from utilizing them for fishing purposes.

While pollution and poor land usage have taken a major toll of our larger trout waters, posting has made a bigger inroad although it may not be considered as serious as the other two factors because this factor is more easily remedied.

Streams or water areas are generally posted for two reasons: First, the abuse of the privilege by the angler. The great majority of the trout streams stocked with takable trout by the Pennsylvania Fish Commission are owned by private citizens and when the angler fishes these water areas, it is only through the generosity of the landowners. The thoughtlessness on the part of many fishermen to respect the rights of the landowners has resulted in closing many miles of trout waters.

This can be remedied by a program of education and understanding on the part of the anglers; and the organized sportsmen are, generally, in a better position to conduct this educational program than any other agency.

The second factor that has closed streams by posting is the creation of private clubs. Some of these clubs are operated for commercial purposes and others, by groups of individuals who choose to enjoy the privilege of fishing for trout without interference of those outside their group. If this practice continues unchecked in Pennsylvania, in a few short years the pleasure of fishing for trout will be limited to privileged individuals as is now the case in many European countries.

To safeguard against this, the Fish Commission has set up an organization to acquire through lease or purchase fishing rights on our major trout waters. From time to time you will be kept posted on the progress of this branch of the Fish Commission's fisheries management program.

If your capacity to acquire has outstripped your capacity to enjoy, you are on the way to the scrapheap.

REVIEWED BY
HUGH JOHNSON

A book published this month which does not include anything about casting, streamcraft, fly tying, the care and feeding of angle worms, or the spawning habits of the brownie, is nevertheless, in a fundamental sense, the most important "fishing" book to be published in recent years. Furthermore, every fisherman who is conscientious about his sport, who returns at least one fish to the stream for every one he keeps, who resents the rusty beer can rolling under his foot and the tattered cement sack slopping against the bank—who, in short, sees his sport as something larger and finer than a brace of trout in his creel on Opening Day—*must* read *Water Or Your Life* by Arthur H. Carhart. It is published by J. B. Lippincott Company, East Washington Square, Philadelphia, Pa. and the price is $3.50.

Water Or Your Life will scare the daylights out of you, because it so clearly articulates the seriousness of the water situation in this country today and lines up such an array of gruesome facts and figures to show that fresh-water sport fishing as we know it is being methodically destroyed. Not in a couple of generations, but in *our* generation, this year, NOW—things are happening, legislation is being pushed through to drain more lakes and divert more streams from their natural courses, to build more dams, to strip more timber—and the direct issue of this will be more trout dying in the streams for want of oxygen and natural food, and hatchery directors increasingly pressed to find comparatively "safe" water for trout planting.

Water Or Your Life, of course, covers the water problems of this nation on a wide basis—protection of watersheds, valley authority problems, water "shortages," the tremendously growing industrial and agricultural demand for water in the modern age, irrigation, etc., and it is all fascinating i disturbing reading for the average citizen But, because Mr. Carhart is a sportsma (and author of such fishing books as *Fresl Water Fishing, Fishing is Fun, Fishing i the West*), and because fishing—America' Number One participant sport—is a $4,000,000,000 annual "business" which thrives o dies on the maintenance, or lack of it, o a natural water-life-line, the author's concern about the future of fresh water fishin is an *obbligato* running through his entir presentation.

Citing case after case, naming names an responsible government bureaus, Mr. Carhar exposes the thoughtlessness, greed, short-sightedness and sheer waste behind man water projects sponsored by the federal government and by states. The "bull-headec murder" of a famous trout stream, a lon stretch of the Colorado River, by a federa dam project—a project with no real justification as far as power needs are concerned—is highlighted as an example of how pressur groups operate against the public good Some of Mr. Carhart's assertions will mak a lot of people scream, and the fury of th screaming in each case will undoubtedly b directly proportional to the extent to whic the screamer is self-interestedly involved i water-killing.

Every fisherman should read this book t find out just how the very streams he fishe are being pulled right out from under him who is doing it, and what he—the averag fisherman—can do about it. We *can* d something. The day can still be saved, an an alert, informed citizenry can do it *Water Or Your Life* not only sounds th alarm—it sets the pattern for every man t follow to assure that our country's life-giving, life-guarding water resources will b saved.

Helping A Stream Produce Better Fishing

(*From page* 9)

efficiency, a dam of this type should not be more than three feet high, 80 inches wide, 12 to 15 feet in length, with a slope of one foot in three.

In locating the dam, have sufficient bank height or free board so the stream will not cut a new channel around the dam.

The Triangular Cover

The triangular cover, shown in Figure 2, can be used to create cover and to deflect the current of a stream; it can be constructed on shore and then placed in the water and weighed down with stones that will hold it in place.

The three sides of the triangular foundation from which the device gets its name are made of logs eight to ten inches in diameter. Poles four to six inches in diameter are spaced across this frame, and atop this wooden device are piled rocks of sufficient size and weight to hold the triangle in place and to resist the force of the current.

The triangular cover is not a large device, as the picture used with Figure 2 indicates. Several of them may be placed in a relatively small area. Their effect is to create pockets of quiet water and to speed the flow of the cur-

ent around them.

This device is most effective when ne point of the triangle is placed upstream.

The Alternate Deflector

The alternate deflector, as shown in 'igure 3, is used to prevent bank rosion and to speed up the stream urrent. One of its best uses is in shalow riffles, since it confines the current o a channel which in time will be coured deeper. It also is a practical levice for installation in a dam and in low-moving areas of the stream, since t creates a current which prevents depositing of sediment in such areas.

The alternate deflector is contructed of rocks which should be arge enough that even a flooding of he stream will not wash them away. There is no need for building an alternate deflector higher than the normal vater level. The sides should be built ıp higher than the center of the delector. The width of this device depends on the size of the stream in vhich it is constructed. The one shown n an accompanying photograph is ıbout five feet in width and is located n a Spring Creek pool which is approximately 50 feet wide.

Type H Boulder Dam

Figure 4 is an illustration of the Type H boulder dam which also is ısed to create pools in streams. But here is no purpose in making a dam of this type unless the boulders used are as large or even larger than those n the bed of the stream. Stone should not be taken from the stream itself but gathered from the area in the vicinity of the stream.

Because this type of dam creates a violent current—white water, as anglers call it—it is necessary to riprap the stream banks at both ends of the dam to prevent erosion by the flow of water.

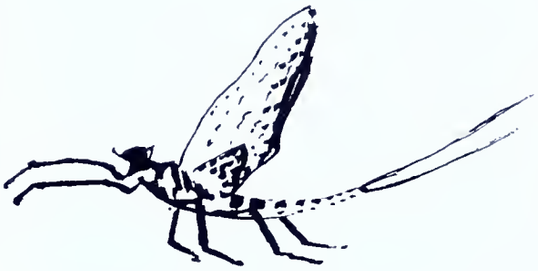
Note also from Figure 4 that one especially large boulder is firmly anchored in the stream bed to provide the keystone for the dam; that behind it other only slightly smaller boulders provide a foundation; and that the rocks used in building the dam become successively smaller as the top of the device is reached.

There is no necessity for building the dam more than a few inches above the normal level of the stream.

Embankment Erosion

Embankment erosion can be controlled by a simple device illustrated in another of the photographs in this article. Rocks are dumped along the stream shore to protect the soft soil which they cover. The rocks used should be larger than those found in the bed of the stream to make sure that the device will be able to endure the force of the current and remain in place. If they do this, they turn the current away from the bank and halt erosion.

All of the devices described in this article have been built and critically tested by engineers of the Pennsylvania Fish Commission. They may be inspected along that portion of Spring Creek which is popularly known as Fisherman's Paradise.



IS A TAIL A TAIL ON A DRY FLY?

By Lyman Clark

That could depend on who's looking at the fly, you or the sh.

As for instance:

We've all seen mayfly duns riding the water before they take off to the shrubbery along shore. Their tails (two or three hairlike strands, depending on variety) are always carried well above the surface of the stream.

And mayfly spinners when they drop to the water for a rest while ovaposit ing take care that the tail is off the water.

Only the unfortunate, the crippled and the spent mayflies get their tails wet.

When we contrive a dry fly, we usually are attempting an imitation of a mayfly. And we tie more upright wing flies (simulating active duns and spinners) than spentwing flies. Yet when we tie on the "tail"—or throat hackle or a bit of wood duck flank feather—we tie it so that it will rest on the surface tension of the stream. It's important to us that the "tail" touch the water, for it helps keep bend of th ehook from going under and eventually dunking the whole fly. The "tail" resting on the stream helps cock the fly and make it float right.

Does the "tail" on a dry fly look like a mayfly tail to a fish? Or does the fish mistake the "tail" for part of the fly's abdomen?

If the fly "tail" does look like part of the fly body to the fish, this might explain why a fish often refuses the size dry fly we pick to match the flies on the water, and then readily takes this same dressing in a smaller size. This might be the reason for the generally accepted rule to change to a smaller size when hte fish comes up and makes fun of our first offering.

We've been tying dry-fly "tails" as if they're part of the body; i.e., if it's a Light Cahill we're tying, we use cream throat hackle for the "tail," which is about the same color as the fox belly fur we dub on for the body proper. We make the "tail" about the same bulk as the dubbed body. And we tie the "tail" as short as we can and still maintain proportion and balance.

When we're on a stream and selecting a fly to match the hatch, we consider the "tail" as part of the fly's bulk.

Our fly floats well because it has more "tail" hackle to rest on and spread the fly's weight over more of the water's surface tension.

Our fly takes fish. We don't know whether or not it takes more fish than flies "tailed" in a more orthodox fashion, because, unfortunately, there's no way to test a fly with an orthodox tail on a fish we've just caught on our fly with the unorthodox tail. Or vice versa.

The 65th Anniversary Meeting of The Penna. Forestry Association

Allan H. Woog, Executive Director announces the Pennsylvania Forestry Association will celebrate sixty-five years of service by holding an outdoor meeting on June 15 and 16 at the Pennsylvania State Forest School, Mont Alto, Pennsylvania. The Pennsylvania Department of Forests and Waters and the Pennsylvania State Forest School will be co-hosts in presenting a varied program. A cordial invitation is extended to all of those interested in the wise use of the forest resources of Pennsylvania.

On Friday afternoon, following registration and lunch, Mr. O. Ben Gipple, director of the Bureau of Forests, will be chairman of a discussion of the new management plans for the state forests of Pennsylvania. This will be followed by a tour of the Mont Alto State Forest Nursery.

A highlight of the meeting will be a barbeque supper at Mont Alto State Forest Park. The conservation award for 1951 will be presented at this time. This award is presented annually by the Pennsylvania Forestry Association for outstanding achievements in the field of conservation.

The guest speaker for the meeting will be Mr. S. L. Frost, executive director of the American Forestry Association, Washington, D. C. To round out the evening meeting, Mr. George H. Wirt will speak on the early history of forestry in Pennsylvania, and Dr. M. E. Fowler, director of Forest Pathology, U. S. Plant Industry Station, Beltsville, Maryland, will show slides on oak wilt—the new menace to Pennsylvania forests.

Forestry practices in Pennsylvania will be observed on Saturday morning with a tour of the Cauffman Compartment of the Waynesboro Watershed, observation of the Carbaugh Plantation Thinning, and a demonstration of the Jackson Lumber Harvester.

Everybody admires a good loser—except his wife.

Uneasy lies the head that ignores a telephone call late at night.

Penna. Fish Commission Stocks Paradise For Korean Casualties

(*From Page* 14)

hospital—some on crutches, some in wheelchairs, and some walking—are not the only ones who share in the trout expeditions, however. Fish that the men kill are kept under refrigeration at the hospital until a sufficient number have accumulated. Then there is a hospital-wide fish fry. For men who are confined to their beds, tiny stoves are moved into the rooms and the fish are fried at the bedsides.

The Fish Commission is making every effort possible to keep this pond well stocked with nice size trout and after the trout season is over, this water area will be stocked with other species so that fishing will be provided well into the fall. To date 2800 large trout have been placed in this pond, some of which were planted on March 19 and April 7, previous to the opening of the trout season. On April 18 a mid-season stocking was taking place.

"Want to go fishin' today, soldier?" questioned the sergeant.

"Fishin'? Gosh, yes! But there are no fish around this place, are there?" eagerly questioned Teddy Schteiden of Philipsburg, Pa., a wounded soldier of the Korean conflict.

"Just wait 'til you see that truckload of trout from one of the Pennsylvania Fish Commission's hatcheries!" challenged the sergeant, with a twinkle in his eye and a tantalizing snap of a thumb and middle finger.

"But surely we don't fish from a truck, sir!" parried the still incredulous Teddy.

The paradise was to be stocked with trout that very day for convalescing soldiers at the hospital, the youthful soldier, a wheel chair patient, was informed. Further, a number of wheel chair patients could be included among those who would be transported to the lake to enjoy a few hours outdoors—among trees and grass and water and *fish*.

All morning it rained and it looked as though there would be no fishing that day. Finally, as if in answer to fervent prayers, the sun began peeping through the clouds. With the weather man on their side at last, word passed by way of the grapevine among the hospital patients—the eagerly waited word—that they *were* going fishing after all!

Members of the hospital staff did not require many minutes thereafter to round up patients, nurses, wheel chairs, afghans, and fishing tackle and load them into a waiting bus, a Red Cross truck, and several passenger cars.

When Willard Ralston of the Huntsdale fish hatchery reached the lake that afternoon with the Fish Commission's truckload of beauties, all was in readiness.

Chester County Fish Warden Horace Pyle of Coatesville and several of his deputies were on hand to supervise the stocking. Capt. Kenneth C. Hill, in charge of special services, and Master Sgt. Don Bowring, head of public information at the hospital, officially received the shipment. Additional members of the staff, including Sgt. Harry Stein, Jr., of Ocala, Florida, and Cpl. George Xenakis of Buckhannon, West Virginia, aided with the transfer of fish from truck to pond, while Sgt. Adler needled them to work faster, 'cause the boys, he said, were almost rigged up to catch 'em!

And then the soldiers fished.

Crutches, wheel chairs, and bandages were soon forgotten amidst peaceful surroundings of the Gotwals lake.

"So they call this 'Rehabilitation'," mused Cpl. William Fountaine of Ansonia, Kentucky, as Pvt. Pete Cappataides of Ambridge, Pennsylvania, another wheel chair patient, baited his hook and lightly tossed it into the lake.

"Yes," replied Sgt. Raymond Amerson of Finger, Tennessee, "but back home they call it just plain FISHIN'—and I like it, no matter what name it goes by!"

"You know, fellows," humorously explained Sergeant Adler, "you are now studying the art of *'piscatology'*—the science of fishing. And each of you, a fisherman, should be referred to as a *'piscator'*."

"Is that so? Well, I wonder if a lady fisherman would be a *'piscatoress'*? queried Cpl. James Campize of New York City, as he observed nurse Alice M. Hilland of North Easton, Massachusetts, deftly placing a net under a big one that had just been reeled in by Mike M. Torrez, Long Branch, New Jersey, who was blinded in Korea.

"I dunno. But if we were caught eating those big ones that we've kept, do you suppose we'd be accused of being *piscivorous?*" impishly whispered Sgt. Carl McCaslin of Athens, Tennessee, to Cpl. Nelson Giorgi of Brooklyn, New York, as the latter removed a suggestion of a "birdie" from his line.

"I'll bet we would!" wagered Pvt. Samuel Shields of Pennsburg, Montgomery County, as another Pennsylvanian, Ernest DiMarcantonia of Morton, Delaware County, grinningly agreed.

Yes, while keeping their hands and their minds busy, those men even laughed a bit that afternoon—men whose grim experiences had not offered them much to laugh about for many moons. This day, however, they had *sunshine within* because they were once more among trees and grass and water and fish—and fresh air and peaceful *sunshine without*.

And thus it is, twice a day—almost every day—at Gotwals Pond near Phoenixville, where members of the Valley Forge Army Hospital staff get together to mend men with fishing tackle.

Experiment With Nymphs

(*From page* 16)

There was still one pattern to try. If only this were the one! I had the usual high hopes. All the other patterns had failed, and no new ideas were forthcoming.

Arriving at the stretch of the Brodheads for artificial lures only, we rigged up. Bill went upstream and I down. The water was clear, but still cold. There was very little sun and some wind. Having arrived at the section of stream I wanted to fish, I had the last new pattern on and I waded in.

On the first cast, much to my surprise, a trout socked into the new nymph, and jumped clear of the water. It surprised me so much I stepped back and almost wer down. The trout was hooked solidly an didn't slip off when my line slacked. Afte landing the trout, I said to myself, "I gues I'll keep you. You may be the only one catch today." But, on the next cast, anothe trout was hooked and landed. "Well!" said, "This is too much! Wonder if tha nymph really is the secret. So I'll find out.

All the old nymph patterns were trie No fish—not even a strike. Then back agai to the new pattern. Right away trout wer again caught—browns and rainbows—som 14 inches.

By that time, Bill had worked his wa downstream to my position, where we ha a conference and compared notes. Bill, wh had been using spinners and various we flies, had several strikes but no fish. "The just aren't hitting right," he said.

I showed him the new nymph that I wa using. "Do you think that this thing wi catch trout?" I inquired. Bill answered tha he didn't see why any trout would war that old beat-up thing. "Well!" I said, "the do. Here, try it." So Bill proceeded to wad in with that old beat-up thing, as he calle it, on the end of his leader. I sat down o the bank and watched. Bill pulled in fiv trout in no time. Bill exclaimed, "Hey What now? I have only one more trou to go and I'll have my limit." (The limi is six on this stretch of the Brodheads. "You don't have to keep them, you know, I answered. So we fished on down th creek. Bill caught plenty of fish and bac they all went. Bill couldn't understand wh he was catching so many trout and I wasn' but I just didn't have the heart to tell hir that he was using my nymph, since it wa the only one I had made.

That night, when I returned home, I sa down and eagerly tied a supply for Bill an me.

We used that same pattern all summer an it was a consistent taker of trout, bot browns and 'bows. But the rainbows seeme to prefer it better than the browns.

I can't say if this pattern is original o not. It has no name, except that I call i the "Brodheads Special." To my knowledge the pattern is not in any fly pattern book It may be a variation of some standard pat tern, but Bill and I know that it takes trou And how! I'm passing this pattern on as made it. You can try it and see for yourself.

No. 8 and No. 10 Wet Fly Hook.
Tail—Brown Hackle Fibers.
1st Body—Any color floss. Build up torpedo shape on hook. Lacquer. Don' flatten.
2d Body—Wind peacock quills close togethe over 1st body from tail to eye of hook Lacquer again. Tie off each quill as you go along.
Ribbing—Fine copper wire. About four turns
Hackle—Brown. One and a half turns.

Big Brown Bows to Lady Angler at Paradise

The season is still young on the Spring Creek project, in fact, Peggy Martinkovic o Summit Hill, Pa., on May 22 landed a whopping big brown on the ladies stream.

The fish measured 24½ inches in length and weighed 6¼-pounds. Men . . . thar's mutiny astream!

— TACKLE TIPS —

"A PRACTICAL LINE DRYER"

By Don Shiner

ORRESPONDENCE recently received from a large line manufacturer sug- ests the importance of line care. The ardinal rule was to thoroughly dry a line fter each use and when storing it for any ength of time, wind it on a large drum r line dryer. In this way the line will not cquire tightly twisted curls from being on he reel spool for too long a time. This olds true for silk, nylon or linen, for fly, asting or salt water lines.

Probably more anglers would give their shing lines the right kind of care if they ad some sort of a make-shift line dryer. Vith one, it would mean a matter of only few minutes to transfer the line from the eel onto the dryer where it would quickly ry and be ready for the next outing. Level nd tapered fly lines, silk and nylon casting nd spinning lines would definitely last longer vith this regular treatment and would be ree of weak areas, areas which through pro- onged dampness become rotted.

A simple line dryer is shown here. It is ot a difficult project to make one of these nd it can be assembled from odds and ends hat can generally be found in every base- nent or garage.

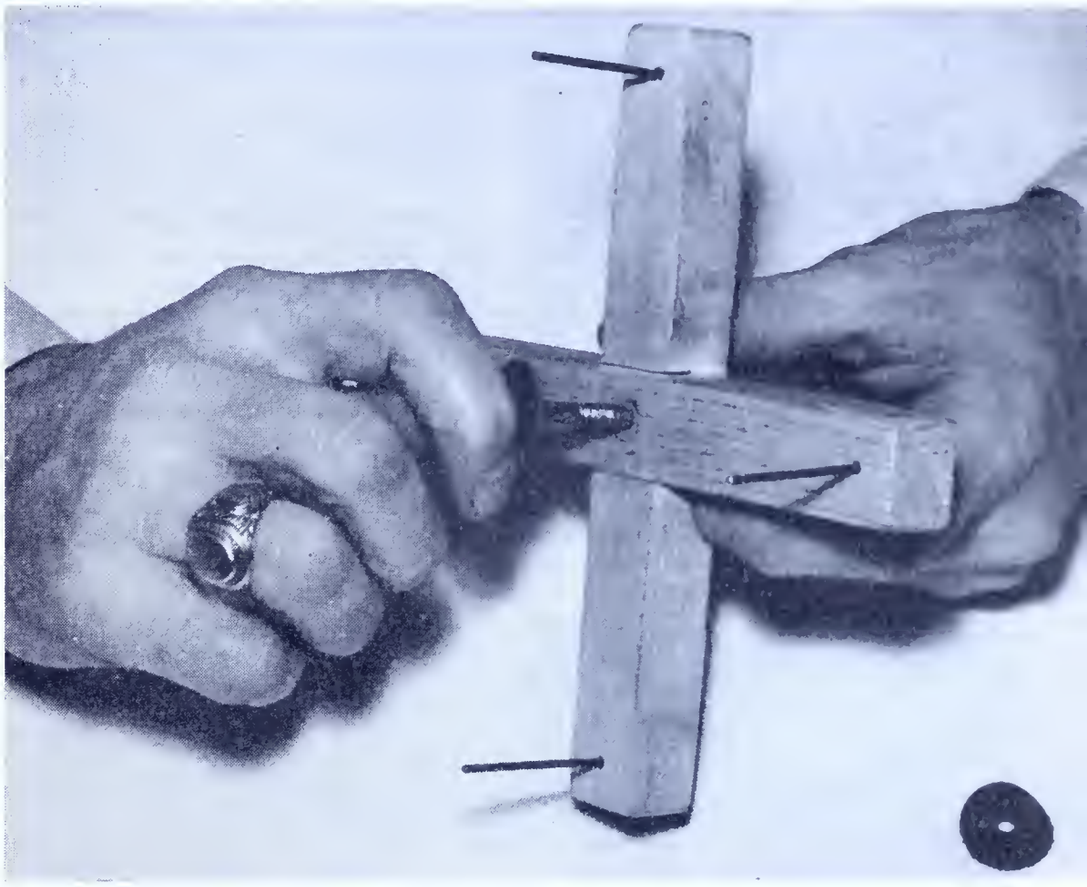
The first step involved in building this ine dryer is cutting the arms from ¾ inch oft pine stock roughly seven inches in ength. Two arms can be used as shown in he accompanying illustrations or a third can e added.

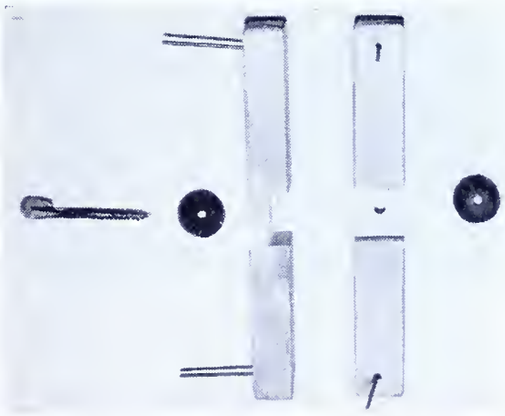
The centers are mortised so that each arm its snugly together and a short piece of wire r a finishing nail is fastened to the leading nd of each arm.

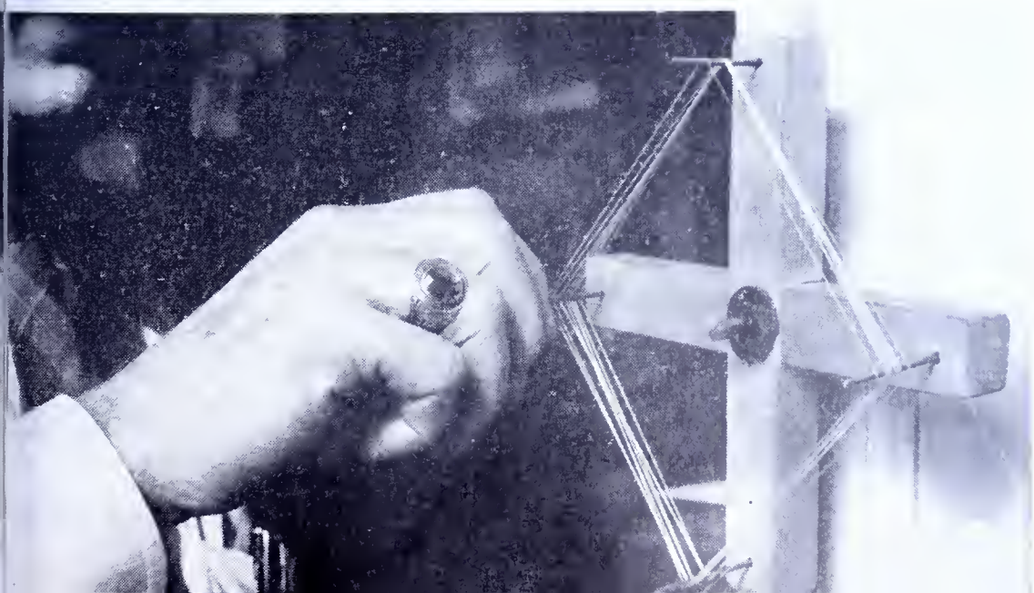
Drill a hole through the center of the nortised joint slightly larger than the di- meter of the screw which fastens the dryer o a post or wall. Whether the finished lryer is painted or allowed to be natural s a matter of choice.

To use it fasten it permanently to the vall in the basement or garage or to a shelf n some closet. The line can be transferred rom the reel onto the dryer immediately vhen putting away the tackle.

Through the use of this device, the line vill definitely last longer. Silk lines dry horoughly and will not rot as quickly. The ines will stay free from the tight coils which hey generally acquire when allowed on the eels for any length of time. Chances are he line will stay as strong and as straight s it was originally and there will be less hance of that big one breaking the line and naking a get-away.







School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

BLAZE A NATURE TRAIL

June would be a fine month to blaze a nature trail. Our state is rich in its number of species of annuals, shrubs, and trees. With a nature trail, you'll be able to become acquainted with a great many of them. Every village, every high school campus, every summer camp, whether it is for boy scouts, camp fire girls, or adults, should have a path along which the trees, shrubs, and wild flowers are plainly, accurately, and interestingly labeled. Such a path can be a constant source of education and entertainment. Even though you are just going to be at home this summer, get a couple buddies and plan to construct a nature trail up the mountain side, through the wood lot, or down through the hollow. Even though your knowledge of botany may be slight, there are so many splendidly illustrated tree and flower guides available today, that with the aid of several interested "scouts" the work will become a game.

The Trail Itself

It has been my experience that a trail blazed for no other purpose except to be a nature trail is best, altho occasionally we have used trails that are also thoroughfares. The path should be just long enough to skirt every possible habitat that the area contains. It should lead through a bog, climb a hill, ford a stream, cross a meadow, etc. In other words, it should visit the highest, lowest, wettest, dryest, richest, and poorest places in the area because different species of plants will be found growing in each. No trail will naturally include all the plants of the region, but the few that are growing elsewhere can be transplanted to the side of the path. Once in Northern Ohio, after our trail had been finished, we discovered the only cucumber tree in the township was growing just a hundred feet from our path. The tree was too big to transplant, so we lengthened the trail in order to include this handsome member of the Magnolia family.

Marking

Small rectangles or squares of tin-can tin or wood that have been painted white can be used for labeling. The plant information is neatly printed in India ink since it is water-proof. These metal or wooden tags can be tacked to the species named, or wired if both sides contain information. In case of flowers or small plants, a wood stake or a heavy wire is forced into the earth near the plant, and the tag attached to this. On the label should be printed:

1. Common Name (if any).
2. Scientific Name (genus and species).
3. Some fact about the plant that will aid the memory.

Here are some examples:

○

TULIP TREE
or
Yellow Poplar
Liriodendron tulipifera

According to Poe in THE GOLD BUG Captain Kidd buried his treasure beneath a skull that was nailed to a tulip tree.

○

BOX ELDER
Acer negundo

The only maple that has compound leaves.

○

RED BUD
or
Judas Tree
Cercis canadensis

This shrub's small red blossoms shine before its heart-shaped leaves make their appearance. It is a member of the bean family; its seeds are encased in a pod.

○

INDIAN PIPE
Monotropa uniflora

This pale, leafless, and shade-loving plant cannot manufacture its own food, but lives on decaying wood. It belongs to a group of similar plants known as saprophytes.

MATCH QUIZ

Can you place these common plants in the right families?

1——Lily Family	A. Queen Anne's Lace
2——Rose Family	B. Blue Flag
3——Mint Family	C. Lady Slipper
4——Night Shade Family	D. Cabbage
5——Honeysuckle Family	E. Locust Tree
6——Bean Family	F. Elderberry
7——Mustard Family	G. Irish Potato
8——Orchid Family	H. Garlic
9——Iris Family	I. Wild Strawberry
10——Parsley Family	J. Hedge Nettle

MATCH QUIZ: 1-H, 2-I, 3-J, 4-G, 5-F, 6-E, 7-D, 8-C, 9-B, 10-A.

Scientific Name?

Everytime a nature trail is planned, someone asks, "Why include scientific names?" I never argue, just suggest that room be left on the label for the scientific term should it be wished later. In time there may be perplexity over the common name which is often different even in adjoining counties. Sometimes the plant is rare and has never been given a common name. There are many species of willow and hawthorne which are not distinguished in ordinary parlance beyond these terms. Sooner or later the scientific name which holds everywhere is included on the tag.

Often several common names are listed. For instance, the basswood tree is also called limewood, white-wood, and the American linden. Odd local names are often amusing.

Label Other Things Too

You needn't limit your labels to plants. Call attention with tags to that hornet's nest, a cecropia cocoon, insect galls, the work of sapsuckers, the devastation of web-worms, etc.

The labels should be attached where they can be easily read by one seeking them, yet they should not dangle everywhere giving a sloppy, price-tag effect. I like a trail so marked that a careless person might travel its entire length and see no tags at all.

Names Are Important

Did you ever attend a banquet,
And find each member there,
Had his or her name neatly printed
On a little white cardboard square,
And soon everyone was acquainted,
The party just couldn't fail,
You'll find this same friendly spirit,
On a well-marked Nature Trail.

CHUCK, THE WARDEN, SAYS:

Speaking of nature trails, keep 'em *natural*. Profit by my experience. Some years ago in an adjoining state I helped a biology class lay out and label a nature trail. To our surprise the whole town became interested. One wealthy man insisted on paving the trail. Another brought back from the Orient three real Japanese bridges to take the place of our rustic spans where we crossed and recrossed the little stream. A woman's club hired a nurseryman to plant hundreds of shrubs and roses along the path. To be sure it became a pretty park, but it wasn't a nature trail. Transplant local plants along the trail, but stay away from *exotics*.

Late Season Trout

(*From page* 13)

lear spot marked by three small oulders. Maybe you remember that hite azalea that grows beside the pine nag on the left bank. Well I stopped nd looked it over. Two or three times imagine I can see a movement like rise but decide my eyes are playng me tricks. Any how I make a cast r two with my streamer but no go. hat clear spot interested me so I sat own and lit my pipe watching all ne time. The black midges were dartng here and there and all at once I vas sure. There was a trout and he vas working so easy it was deceiving o watch. I got a tapered leader and a umber eighteen Black Midge on and ne first float I was fast to a big brown. hat strip of water is clear and not ery deep so it was like Mrs. McLean aking her pet poodle dog out for a valk. First we went up, then down, hen across until I got him down by he gravel bar. Then I just put my oot alongside him and a good side wipe laid him high and dry. No xcitement at all."

One thing I learned when I took ii's thermometer and checked that lear place was that there was a spring hat came up through the bottom and ept it four degrees cooler in that lear spot than in the cloudy water round it."

Mak relit his pipe and listened for few minutes to a whip-poor-will's all that came from a dead snag, topping the dripping conifers. "Guess the ain's over by the sound of that fellow: Learned some other things from playng around with that gadget. If trout an't find a spring hole in hot weather hey'll settle for a waterfall or a good ast rip where the air get's pounded nto the water. Another thing the fly natches ain't large or plentiful during late season so the trout turn to minnows. They take 'em at night or early morning and spend the rest of the day deep in some cool shady place sort of digesting and waiting. If I could only have two kinds of flies for late season one would be a streamer or bucktail in about size ten and the other would be a dark midge size eighteen or twenty. The cool spots will have trout and a midge will take them during the day but for big ones give me something that looks like a bite to the trout and dusk or dawn to fool the big ones."

"Maybe I like fishing after a rain when the water is touched just a little bit with color and everything's fresh like it'll be tomorrow."

Half way down the slope a hermit thrush sounded his bell and the answer came from another somewhere behind the cabin. The Whip-poor-will sounded faintly along the ridge and from far below came the sleepy murmur of flowing water.

"Let's turn in," said Mak, "It's going to be a good day tomorrow and you will want to see all of it. Maybe we'll get some thunder and lightning trout."

Learning From An Old Timer

(*From page* 21)

"What's the difference?" Dee asked.

Just then we passed a lonely fisherman sitting at the side of the stream. Let's stop and find out how he's doing," Dee said and slowed the car, as he was driving.

"Okay," we chorused. "Might as well."

Getting out of the car we approached the voluble fisherman. He was at that moment disposing of a chub that had hit his bait.

"—!!-**! good-for-nothing, lousy, **!**!*!* bait stealers!" he yelled.

We laughed.

"Get anything else?" Coke asked in anticlimax.

"Oh, I need one more," the man commented as he turned to us with a critical eye, "but I can't get it for these darn chubs. They keep stealing my bait."

"You got how many?" we echoed in a chorus of disbelief.

"Nine, I think . . .," he repeated. "Mebbe I better make sure." With this remark he pulled out, one after another, nine fine trout which he'd caught not more than half a mile upstream from where we had been fishing. After a few pleasantries, we sheepishly got back into the car.

"I told you we were fishing the wrong part of the stream," Dee joked.

"I guess we were," Coke and I admitted, as the car sped for home.

A few days later I met Dee along the street.

"Do any more trouting?" I asked laughingly.

"As a matter of fact," he answered triumphantly, I did. Coke and I were up the Big Run, near Gibsondale."

"And how many did you get?"

"Nine apiece," he laughed.

"And I guess you used the spinning minnow?" I asked once more.

"Sure did," he answered. "For trout, anytime, you just can't beat that bait."

HUNGRY SNAKE SNARES TROUT

By Fred L. Schroder

In the photograph above is portrayed the grim drama of one of natures countless struggles for survival; happening day in and day out in thicket, swamp, forest or creek. They are seldom seen, much less photographed.

As the shutter clicked, the brook trout was flapping wildly in a vain effort to escape, while the water snake, its swallowing process started, inched it down.

Catching the trout by the head while in fairly deep water, the snake skillfully maneuvered it to the surface. His next move was more calculating and showed more intelligence than is usually accredited the lowly snake. To reduce the terrific power of the fish's lashings while its tail was still geared to water, the water snake raised the entire body of the fish out of the water and holding it in this fashion, swam toward the creek bank. He was clever enough to eliminate the mighty big factor of the water resistance caused by the fish's body and tail.

During this time the trout was just held firmly by the head, but once the brooky was helpless on the bank, the slow process of swallowing was started. When I intervened the trout was swallowed past the gills, was released, lay gasping on the bank. Placed back into the creek it floated a few seconds, revived quickly and with a few wiggles darted into the depths. There's little doubt snakes take their toll of trout in our streams.

Pennsylvania Fish Law Violations

Cases settled during the months of March and April

ADAMS COUNTY

Bretzman, Paul, Bendersville, Pa. Illegal device ..... $ 20.00

ALLEGHENY COUNTY

Baker, Robert, R. D. No. 1, Cheswick, Pa. Violation of the Rules and Regulations 20.00
Balkovec, John, 515 Park Ave., Braddock Hill, Pa. Violation of the Rules and Regulations 20.00
Bartoletta, Anthony, 10D N. Braddock Hts., Braddock, Pa. Violation of the Rules and Regulations 20.00
Coles, George W., 5173 Broad St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Cottrell, Earnest W., 526 Pressley St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Gray, C. J., R. D. No. 3, Coraopolis, Pa. Fishing in restricted waters 25.00
Grimm, Donald, R. D. No. 1, Wexford, Pa. Violation of the Rules and Regulations 20.00
Johnson, George W., 7 Younger Ave., Pittsburgh, Pa. Violations of the Rules and Regulations 20.00
Karvenski, Steve, 1317 Sandusky St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Marflak, Joseph, 47 Rhodes Ave., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Matvia, Paul J., 916 Cliff St., N. Braddock, Pa. Violation of the Rules and Regulations 20.00
Mock, Fred, 2335 Patterson Ave., Swissvale, Pa. Violation of the Rules and Regulations 20.00
Mrazek, Ladislaus, 14 Letsche St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Noll, G. Edwin, 541 Corey Ave., Braddock, Pa. Illegal operation of motor boat .. 10.00
Novick, John, Box 853, Russellton, Pa. Violation of the Rules and Regulations 20.00
Schardt, John W., 11 Victory Village, Fair Oaks, Pa. Violation of the Rules and Regulations 20.00
Scott, Clyde R., 924½ Cliff St., N. Braddock, Pa. Violation of the Rules and Regulations 20.00
Sinko, Anne, 208 Anderson St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Temple, James W., R. D. No. 3, Gibsonia, Pa. Violation of the Rules and Regulations 20.00
Veltman, Andrew, 22 Spruce St., Natrona, Pa. Violation of the Rules and Regulations 20.00
Voyda, John, 6913 McClure Ave., Swissvale, Pa. Violation of the Rules and Regulations 20.00
Wassel, Pete, 209 Grantham St., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00
Womer, Kenneth L., 807 Franklin Ave., Wilkinsburg, Pa. Violation of the Rules and Regulations 20.00
Young, Edward, 801 Wenzel Ave., Pittsburgh, Pa. Violation of the Rules and Regulations 20.00

ARMSTRONG COUNTY

Collar, Roy, Freeport, Pa. Violation of the Rules and Regulations 20.00
Cowan, James, Kittanning, Pa. Violation of the Rules and Regulations .. 20.00
Tobi, John, Box 92, Yatesboro, Pa. Unnaturalized foreign-born resident fishing 20.00

BEAVER COUNTY

Baker, Curtis E., R. F. D. No. 3, Beaver Falls, Pa. Violation of the Rules and Regulations 20.00
Dusenberry, Allan C., 751 Fourth Ave., Freedom, Pa. Violation of the Rules and Regulations 20.00
Dusenberry, Raymond W., 751 Fourth Ave., Freedom, Pa. Violation of the Rules and Regulations 20.00
Elsman, James, 901 Third Ave., Freedom, Pa. Violation of the Rules and Regulations 20.00
Fauser, John J., Box 184, Conway, Pa. Exceeding creel limit 20.00
McConley, Samuel H., 549 E. Madison St., Rochester, Pa. Violation of the Rules and Regulations 20.00
Misik, Cornel, R. F. D. No. 1, New Brighton, Pa. Violation of the Rules and Regulations 20.00
Misik, John, R. F. D. No. 1, New Brighton, Pa. Violation of the Rules and Regulations 20.00
Namett, Joseph, R. F. D. No. 1, Monaca, Pa. Violation of the Rules and Regulations 20.00
Patterson, Fred, 2621 Eighth Ave., Beaver Falls, Pa. Violation of the Rules and Regulations 20.00
Sayre, M. B., 910 10th St., Beaver Falls, Pa. Violation of the Rules and Regulations 20.00
Thomas, Jesse, 1011 Third Ave., New Brighton, Pa. Violation of the Rules and Regulations 20.00
White, Irwin D., 619 Eleventh Ave., New Brighton, Pa. Violation of the Rules and Regulations 20.00
Zaleski, John, R. D. No. 1, Baden, Pa. Violation of the Rules and Regulations 20.00
Zaleski, Julia, R. D. No. 1, Baden, Pa. Violation of the Rules and Regulations 20.00
Zaleski, Stanley, R. D. No. 1, Baden, Pa. Violation of the Rules and Regulations 20.00

BEDFORD COUNTY

Beaner, Cletus, Alum Bank, Pa. Illegal device 20.00
Hammel, Howard O., Woodbury, Pa. Violation of the Rules and Regulations 20.00
Lowery, Harvey G., R. F. D. No. 1, Hyndman, Pa. Seven trout in closed season 70.00
Wentz, Vernon, R. F. D. No. 1, Alum Bank, Pa. Illegal device 20.00

BERKS COUNTY

Cramer, William, 925 Weiser St., Reading, Pa. Violation of the Rules and Regulations 20.00
Engle, William, R. D. No. 3, Wernersville, Pa. Violation of the Rules and Regulations 20.00
Faust, Chester G., R. D. No. 1, Douglassville, Pa. Violation of the Rules and Regulations 20.00
Hunsberger, Robert, Lance Place, Reading, Pa. Violation of the Rules and Regulations 20.00
Iovanna, Michael, 705 Ave. A, Glenside, Pa. Violation of the Rules and Regulations 20.00
Kosikowski, Stephen J., 1529 Cotton St., Reading, Pa. Violation of the Rules and Regulations 20.00
Palcak, Martin, 722 Neversink St., Reading, Pa. Violation of the Rules and Regulations 20.00
Plowfield, Harvey H., 20 W. Court Blvd., West Lawn, Pa. Violation of the Rules and Regulations 20.00
Reber, Ellen, Kenhorst, Reading, Pa. Fishing with a borrowed license 25.00
Rounsville, Thomas, 516 N. 9th St., Reading, Pa. Violation of the Rules and Regulations 20.00
Schock, Clyde E., 1045 N. 4th St., Reading, Pa. Violation of the Rules and Regulations 20.00
Sullivan, Lawrence, 722 Neversink St., Reading, Pa. Violation of the Rules and Regulations ..... 20.
Talarico, Samuel, 1105 Chestnut St., Reading, Pa. Violation of the Rules and Regulations ..... 20.
Waltman, Carl, 319 S. 17th St., Reading, Pa. Violation of the Rules and Regulations ..... 20.
Wentzel, Don L., 143 W. Broad St., Shillington, Pa. Violation of the Rules and Regulations ..... 20.
Wise, George, 552 Court St., Reading, Pa. Violation of the Rules and Regulations ..... 20.
Yeager, Walter L., 132 Oley St., Reading, Pa. Violation of the Rules and Regulations ..... 20.
Zimmerman, Richard, 143 W. Broad St., Shillington, Pa. Violation of the Rules and Regulations ..... 20.
Zweizig, Edgar Jr., 1119 Oley St., Reading, Pa. Violation of the Rules and Regulations ..... 20.

BLAIR COUNTY

Gallagher, Dell A., 125 Lexington Ave., Altoona, Pa. Violation of the Rules and Regulations ..... 20.
Hopkins, James C., 1216 Penna. Ave., Tyrone, Pa. Violation of the Rules and Regulations ..... 20.
Mountain, Charles A., 308 8th St., Juniata, Altoona, Pa. Violation of the Rules and Regulations ..... 20.
Port, Charles W., Box 923, R. D. No. 1, Altoona, Pa. Snag fishing or four hooking suckers ..... 20.

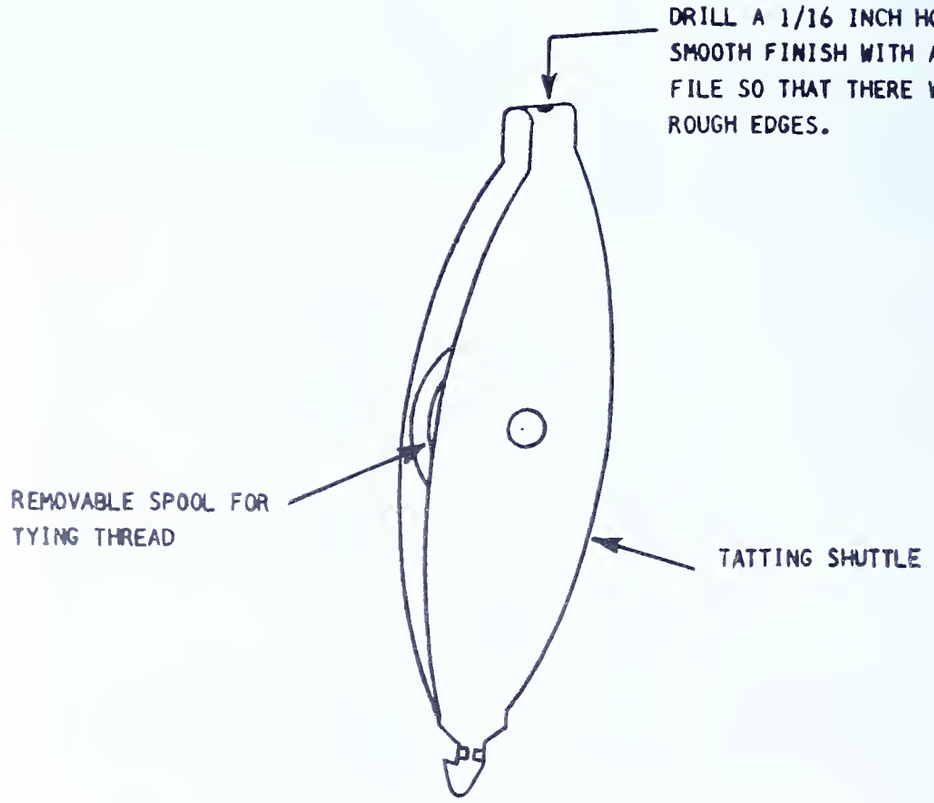
BUCKS COUNTY

Blew, Frank A., 121 Center St., Morrisville, Pa. Violation of the Rules and Regulations ..... 20.
Bloom, Gerald, 808 4th Ave., Bristol, Pa. Violation of the Rules and Regulations 20.
Crouch, Harold R., Street Rd. and June Ave., Croydon, Pa. Violation of the Rules and Regulations ..... 20.

AN INEXPENSIVE FLY TYER'S BOBBIN

By F. L. Frost, Jr.

A very inexpensive but highly efficient fly tying bobbin can be made in a very few minutes from a tatting shuttle obtainable for ten cents at most any "dime" store by following the directions given in the illustration below. The tatting shuttle comes with a removable spool which will hold a spool of tying thread very nicely. These bobbins are so inexpensive that there is no reason that a tyer cannot have one for each size and color of tying thread used.



Rose, Harry, 204 E. Palmer St., Morrisville, Pa. Violation of the Rules and Regulations 20.00
Schnader, William, 656 Spruce St., Bristol, Pa. Violation of the Rules and Regulations 20.00
Weikel, John, Lafayette Ave., Eddington, Pa. Violation of the Rules and Regulations 20.00
White, Edward J., Lock No. 1, Pont St., Bristol, Pa. Violation of the Rules and Regulations 20.00

BUTLER COUNTY

Kane, Richard T., R. D. No. 2, Sarver, Pa. Fishing without a license 25.00

CAMBRIA COUNTY

Bishop, T. R., Hemlock St., Gallitzin, Pa. Exceeding creel limit 20.00
Daniell, Mario, Rear 1191 Semors St., Johnstown, Pa. Violation of the Rules and Regulations 20.00
Iveges, Michael J., Box 68, Puritan, Pa. Violation of the Rules and Regulations 20.00
Majnos, Joseph, R. F. D. No. 1, Windber, Pa. Violation of the Rules and Regulations 20.00
Melsel, Frank A., R. F. D. No. 5, Johnstown, Pa. Violation of the Rules and Regulations 20.00
Jacobs, Duane R., 1609 Bedford St., Johnstown, Pa. Violation of the Rules and Regulations 20.00
Loubinsky, Louis, 325 Boyer St., Couperdale, Johnstown, Pa. Violation of the Rules and Regulations 20.00
May, Lee, 1260 Fingerhoot St., Johnstown, Pa. Violation of the Rules and Regulations 20.00
McConnell, Thomas P., 108 Highland Ave., Patton, Pa. Fishing without a license 25.00
Otolinsky, Stanley, 147 Birch St., Franklin, Conemaugh, Pa. Violation of the Rules and Regulations 20.00
Silko, Peter, 34 Hazel St., Franklin, Conemaugh, Pa. Violation of the Rules and Regulations 20.00
Zeckley, George F., R. D. No. 1, Ebensburg, Pa. Violation of the Rules and Regulations 20.00

CENTRE COUNTY

Burr, Theodore W., State College, Pa. One undersized brook trout 10.00

CHESTER COUNTY

Parsons, James E., West Grove, Pa. Fishing without a license 25.00
Zaremba, Walter C., 462 Emmett St., Phoenixville, Pa. Violation of the Rules and Regulations 20.00
Zaremba, Walter C., 462 Emmett St., Phoenixville, Pa. Fishing without a license 25.00

CLARION COUNTY

Henry, Joseph L., Rimersburg, Pa. Violation of the Rules and Regulations .. 20.00
Seigworth, R. A., Hawthorn, Pa. Violation of the Rules and Regulations 20.00

CLEARFIELD COUNTY

Johnson, William J., R. D. No. 2, Madera, Pa. Violation of the Rules and Regulations 20.00

CLINTON COUNTY

McCloskey, Harry E., 27 W. Park St., Lock Haven, Pa. One undersized trout 10.00
McCloskey, Harry E., 27 W. Park St., Lock Haven, Pa. Fishing without a license 25.00
Petres, Ralph N., Mackeyville, Pa. Fishing without a license 25.00

COLUMBIA COUNTY

Jurgill, Anthony, E. Railroad St., Centralia, Pa. Violation of the Rules and Regulations 20.00
Jurgill, Walter, E. Railroad St., Centralia, Pa. Violation of the Rules and Regulations 20.00

DAUPHIN COUNTY

Bohner, Kermit E., Pillow, Pa. Illegal operation of motor boat 5.00
Borzilliri, Joseph, 3147 N. 6th St., Harrisburg, Pa. Offering and exposing for sale striped bass less than 18" in length 30.00
Enterline, Richard, 1411 Vernon St., Harrisburg, Pa. Violation of the Rules and Regulations 20.00
Gutshall, Wilmer S., P. O. Box 221, Millersburg, Pa. Exceeding creel limit ... 20.00
Lyons, Harry, 1318 James St., Harrisburg, Pa. Offering and exposing for sale striped bass less than 18" in length .. 30.00
McCallum, Samuel, 1935 Wood St., Harrisburg, Pa. Offering for sale striped bass less than 18" in length 30.00

DELAWARE COUNTY

Boyle, Frank, Concordville, Pa. Violation of the Rules and Regulations 20.00
Giles, William, 16 Bethel St., Boothwyn, Pa. Violation of the Rules & Regulations 20.00
Kane, William, Concordville, Pa. Violation of the Rules & Regulations 20.00
March, Raymond, 208 Water St., Ridley Park, Pa. Exceeding creel limit 40.00
Reed, Rewben C., No. 7, Boothwyn, Pa. Violation of the Rules & Regulations 20.00

ELK COUNTY

Steward, William, Brandy Camp, Pa. Three illegal trout 30.00

ERIE COUNTY

Hajnik, Frank T., 108 Hathaway St., Girard, Pa. Violation of the Rules & Regulations 20.00
Johnston, Violet, R. D. No. 5, North East, Pa. Fishing without a license 25.00
Kephart, William, 208 Hathaway St., Girard, Pa. Violation of the Rules & Regulations 20.00
Matha, Raymond, 709 Walnut St., Erie, Pa. Fishing without a license 25.00
Pratt, Richard, North Springfield, Pa. Violation of the Rules & Regulations 20.00
Prezwichi, Joseph, 643 E. 12th St., Erie, Pa. Fishing without a license 25.00
Sementilli, Nick, 3512 Buffalo Rd., Wesleyville, Pa. Violation of the Rules & Regulations 20.00
Tamplin, James, 1802 Filmore Ave., Erie, Pa. Illegal device 20.00
Waxham, Melvin N., 125 Smith St., N. Girard, Pa. Fishing without a license 25.00

FOREST COUNTY

Dougherty, J. D., E. Hickory, Pa. One undersized trout 10.00

FULTON COUNTY

Bottomfield, Chester H., Crystal Spring, Pa. Violation of the Rules & Regulations 20.00

HUNTINGDON COUNTY

Angelo, Pompoy, Dudley, Pa. Violation of the Rules & Regulations 20.00
Dunkle, George W., Drake St., Mt. Union, Pa. Violation of the Rules & Regulations 20.00
Eckley, Richard V., R. D. 3, Huntingdon, Pa. One bass in closed season 10.00
Eckley, Richard V., R. D. 3, Huntingdon, Pa. Violation of the Rules & Regulations 20.00
Houser, James A., McConnelstown, Pa. Illegal device 20.00
Houser, James A., McConnelstown, Pa. Violation of the Rules & Regulations 20.00
Hucovsky, John J., Dudley, Pa. Violation of the Rules and Regulations 20.00
Molosky, Alexander F., Dudley, Pa. Violation of the Rules & Regulations .. 20.00
Putt, John, McConnelstown, Pa. Illegal device 20.00
Putt, John, McConnelstown, Pa. Violation of the Rules & Regulations 20.00

INDIANA COUNTY

Askey, Leonard, Clymer, Pa. Anchoring minnows in stream without name plates 20.00
Askey, Leonard, Clymer, Pa. Three minnows over his possession limit 30.00
Balitski, Walter J., Hillesdale, Pa. Five minnows over possession limit 50.00
Bartlebaugh, Henry, 300 S. Negley St., Pittsburgh, Pa. Violation of the Rules & Regulations 20.00
Calvetti, Paul L., Altman, Pa. Violation of the Rules & Regulations 20.00
Decarlo, Anthony W., Box 465, Indiana, St., Homer City, Pa. Violation of the Rules & Regulations 20.00
Gaba, Kathryn E., 1139 Broad St., Newark, N. J. Fishing without a license .. 25.00
Geist, James D., R. D. 2, Mayport, Pa. Violation of the Rules & Regulations 20.00
Geist, Stanley P., Timblin, Pa. Violation of the Rules & Regulations 20.00
Griffith, Ebert W., R. F. D. No. 1, Rossiter, Pa. Violation of the Rules & Regulations 20.00
Kopczyk, Joe P., Clymer, Pa. Exceeding creel limit 30.00
Kopczyk, Joe P., Clymer, Pa. Anchoring minnows in stream without name plate 20.00
Kopczyk, Stanley W., Clymer, Pa. Exceeding creel limit 30.00
Lucarelli, Ralph, 305 Bell St., Wilmerding, Pa. Violation of the Rules & Regulations 20.00
Matthews, Ernest G., Ruel Valley, Pa. Violation of the Rules & Regulations 20.00
Rellick, John J., Box 25, Altman, Pa. Violation of the Rules & Regulations 20.00
Rice, Wilbert F., Box 256, Barnesboro, Pa. Violation of the Rules & Regulations 20.00
Ruddock, Ralph, Graceton, Pa. Violation of the Rules & Regulations 20.00
Smouse, Harold, 514 Middle Ave., Wilmerding, Pa. Violation of the Rules & Regulations 20.00
Trink, Tony A., 424 Westinghouse St., Wilmerding, Pa. Violation of the Rules & Regulations 20.00
Zamp, Eddie M., 325 Bell St., Wilmerding, Pa. Violation of the Rules & Regulations 20.00

LACKAWANNA COUNTY

Cole, Robert Jr., 314 S. 9th Ave., Scranton, Pa. Exceeding creel limit 10.00
Konish, Stanley, 805 Oak St., Eynon, Pa. Exceeding creel limit 10.00
Mahoski, Bernard, 1112 Tuttle St., Simpson, Pa. Fishing with tip-ups in closed season 20.00
Malinowski, John, 29 Jefferson St., Simpson, Pa. Fishing with too many rods 20.00
Orzell, Chester C., 329—17th St., Scranton, Pa. Exceeding creel limit 10.00
Rowlands, Donald, 420 Scott Rd., Chinchilla, Pa. Violation of the Rules & Regulations 20.00
Rowlands, William, 420 Scott Rd., Chinchilla, Pa. Violation of the Rules & Regulations 20.00
Sistili, John F., 622 E. Lackawanna Rd., Olyphant, Pa. Violation of the Rules & Regulations 20.00
Slezak, Edward, 313 Wyoming Ave., Dupont, Pa. Exceeding creel limit 30.00
Wabtko, Joseph, 149 Moosic St., Jessup, Pa. Violation of the Rules & Regulations 20.00
Zulich, Andrew, 51 Midland St., Simpson, Pa. Fishing with tip-ups in closed season 20.00

LANCASTER COUNTY

Campbell, William, R. D. No. 2, Lancaster, Pa. Violation of the Rules & Regulations 20.00
Hart, Arthur, New Providence, Pa. Exceeding creel limit 10.00
Lesman, Richard, Corner N. Queen & Walnut Sts., Lancaster, Pa. Offering and exposing for sale striped bass less than 18" long 20.00

LAWRENCE COUNTY

Moyer, Carrie E., R. D. 1, New Castle, Pa. Fishing in restricted area at Pymatuning Lake 25.00
Moyer, Omer E., R. D. 1, New Castle, Pa. Fishing in restricted area at Pymatuning Lake 25.00
Sipe, Jess N., R. D. No. 3, Volant, Pa. Violation of the Rules & Regulations 20.00
Will, Albert R., R. D. 1, New Castle, Pa. Fishing in restricted area at Pymatuning Lake 25.00

LEHIGH COUNTY

Bauer, Gerald L., R. D. 1, Emmaus, Pa. Violation of the Rules & Regulations 20.00
Bauer, Russell E., 524 Auburn St., Allentown, Pa. Violation of the Rules & Regulations 20.00
Bauer, Rudolph, 721 Railroad St., Allentown, Pa. Violation of the Rules & Regulations 20.00
Derr, Robert C., R. D. 1, Orfield, Pa. Fishing without a license 25.00
Steinson, John, 538 Whitehall St., Allentown, Pa. Violation of the Rules & Regulations 20.00
Wallach, John, 131 S. 12th St., Allentown, Pa. Violation of the Rules & Regulations 20.00

LUZERNE COUNTY

Sal, John, 96 Chapel St., Wilkes-Barre, Pa. Violation of the Rules & Regulations 20.00
Spaide, Abraham, 322 W. 3rd St., Nescopeck, Pa. Lines not under immediate control 20.00

LYCOMING COUNTY

Lundy, Eugene E., 515 Spruce St., Montoursville, Pa. Violation of the Rules & Regulations 20.00
Thomas, Lester, 2352 Fairview Terrace, Williamsport, Pa. Violations of the Rules & Regulations 20.00

McKEAN COUNTY

Douglass, Daniel G., R. D. No. 2, Eldred, Pa. Violation of the Rules & Regulations 20.00
Douglass, Daniel G., R. D. No. 2, Eldred, Pa. Fishing without a license 25.00
Frair, Leonard M., Mount Alton, Pa. Two undersized trout 20.00
Kehle, Philipe E., Westline, Pa. Three undersized trout 30.00
Myers, Albert H., Gate Hollow Rd., Bradford, Pa. Violation of the Rules & Regulations 20.00

(Concluded on next page)

MERCER COUNTY

Blakely, Dale, R. D. No. 3, Grove City, Pa. Illegal operation of motor boat 25.00
Clayton, George W., 198 High St., Sharon, Pa. Non-resident giving false information to secure a fishing license 25.00
Stockner, Edward, R. D. No. 1, Jamestown, Pa. Fishing without a license .. 25.00
Thompson, Lyle F., R. D. No. 2, Jamestown, Pa. Illegal operation of motor boat 100.00

MIFFLIN COUNTY

Shank, David R., R. D. 1, Reedesville, Pa. Altering a fishing license 25.00

MONROE COUNTY

Kunkle, Carl, R. F. D. 3, Kunkletown, Pa. Fishing without a license 25.00
Super, John, 179 Elizabeth St., East Stroudsburg, Pa. Fishing with bait in restricted area 20.00
Super, John, 179 Elizabeth St., East Stroudsburg, Pa. Fishing without a license 25.00
Transue, Kenneth, 229 N. 9th St., Stroudsburg, Pa. Fishing without a license 25.00
Transue, Kenneth, 229 N. 9th St., Stroudsburg, Pa. Fishing with bait in restricted area 20.00

MONTGOMERY COUNTY

Brandel, William, 84 High St., Pottstown, Pa. Fishing without a license .. 25.00
Preston, Robert F., Leary Trailer Camp, Horsham, Pa. Violation of the Rules & Regulations 20.00

MONTOUR COUNTY

Clark, Elias E., 21 Cooper St., Danville, Pa. Violations of the Rules & Regulations 20.00
Cournow, Jack, Church St., Danville, Pa. Violation of the Rules & Regulations 20.00
Dyer, Troy E., 23 Cooper St., Danville, Pa. Violation of the Rules & Regulations 20.00
Stump, Harry, 8 Montour Row, Danville, Pa. Violation of the Rules & Regulations 20.00

NORTHAMPTON COUNTY

Chamberlain, Wyatt, 319 Washington St., Easton, Pa. Violation of the Rules & Regulations 20.00
Jandrasitz, Carl, R. D. No. 1, Bethlehem, Pa. Violation of the Rules & Regulations 20.00
Van Willard, George, 319 Washington St., Easton, Pa. Violation of the Rules & Regulations 20.00

NORTHUMBERLAND COUNTY

Becker, Marlin, 1457 Scott St., Kulpmont, Pa. Violation of the Rules & Regulations 20.00
Hartman, Carl, Riverside, Pa. Violation of the Rules & Regulations 20.00
Lucas, Charles, 1053 Chestnut St., Kulpmont, Pa. Violation of the Rules & Regulations 20.00
Milun, Joseph, 321 E. Saylor St., Atlas, Pa. Violation of the Rules & Regulations 20.00
Morawski, Alex, 631 Diamond St., Shamokin, Pa. Violation of the Rules & Regulations 20.00
Mostick, Joseph, Main St., Matalie, Pa. Violation of the Rules & Regulations 20.00
Murawski, Anthony, 952 Spruce St., Kulpmont, Pa. Violation of the Rules & Regulations 20.00
Murawski, Lenard C., 952 Spruce St., Kulpmont, Pa. Violation of the Rules & Regulations 20.00
Phillips, Royal B., 1013 Mt. Carmel St., Shamokin, Pa. Violation of the Rules & Regulations 20.00
Sankowiski, Henry, 940 Spruce St., Kulpmont, Pa. Violation of the Rules & Regulations 20.00
Shirk, S. F., 941 Agusta St., Sunbury, Pa. Exceeding creel limit 10.00
Sobotor, Norman, 1304 Hemlock St., Shamokin, Pa. Violation of the Rules & Regulations 20.00

PERRY COUNTY

Woods, Paul, Duncannon, Pa. Illegal device (oversized net) 100.00

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Braun, Herman, 1927 Berkshire St., Philadelphia, Pa. Violation of the Rules & Regulations 20.00
Carr, Joseph, 737 S. 15th St., Philadelphia, Pa. Violation of the Rules & Regulations 20.00
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Bensinger, Warren, Valley View, Pa. Violation of the Rules & Regulations .. 20.00
Berish, Andrew, Jr., Llewellyn Road, Box 252, Minersville, Pa. Violation of the Rules & Regulations 20.00
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Demmi, Anthony, 508 W. Center St., Shenandoah, Pa. Violation of the Rules & Regulations 20.00
Paluosky, Vincent, Preston Hill, Girardville, Pa. Violation of the Rules & Regulations 20.00
Pecosky, William, Lost Creek, Pa. Violation of the Rules & Regulations 20.00
Schnoke, Alvin, R. D. No. 2, Pine Grove, Pa. Violation of the Rules & Regulations 20.00

SNYDER COUNTY

Bailey, Kenneth, Selinsgrove, Pa. Violation of the Rules & Regulations 20.00
Mitchell, Melvin, 704 N. Market St., Selinsgrove, Pa. Violation of the Rules & Regulations 20.00
Woodling, W. F., R. D. No. 2, Selinsgrove, Pa. Illegal operation of motorboat 5.00
Zechman, George, Selinsgrove, Pa. Fishing without a license 25.00

SOMERSET COUNTY

Brown, Irvin, Boswell, Pa. Violation of the Rules & Regulations 20.00
Brown, Kenneth, Jerome, Pa. Violation of the Rules & Regulations 20.00
Feichtner, Charles, Davidsville, Pa. Violations of the Rules & Regulations .. 20.00
Jacob, John, R. D. No. 1, Beaverdale, Pa. Violation of the Rules & Regulations 20.00
Omerzo, John, R. D. No. 2, Berlin, Pa. Violation of the Rules & Regulations 20.00
Pockop, Eugene, Jennera, Pa. Violation of the Rules & Regulations 20.00
Schardt, Gordon, Salisbury St., Meyersdale, Pa. Violation of the Rules & Regulations 20.00
Shaulis, William F., R. D. No. 3, Somerset, Pa. Illegal device 20.00
Shaulis, William F., R. D. No. 3, Somerset, Pa. Fishing without a license ... 25.00
Toth, Joseph, Beaverdale, Pa. Violation of the Rules & Regulations 20.00

TIOGA COUNTY

Butler, Claude E., Tioga, Pa. Violation of the Rules & Regulations 20.00
Yungwirth, Matthew, Jr., R. D. No. 3, Wellsboro, Pa. Violation of the Rules and Regulations 20.00

WARREN COUNTY

Black, Joe N., Croydon, Pa. Illegal operation of motor boat 5.00
Proper, William E., R. D. No. 1, Grand Valley, Pa. Seventeen trout in closed season 170.00

WESTMORELAND COUNTY

Montgomery, Audley, House 14, Parnassus, Box 3, New Kensington, Pa. Violation of the Rules & Regulations 20.00
Solonichne, John, R. D. No. 2, Box 142, Leechburg, Pa. Violation of the Rules & Regulations 20.00
Vallosio, James, R. D. No. 2, Leechburg, Pa. Violation of the Rules & Regulations 20.00
Vallosio, Pete, Jr., R. D. No. 1, Vandergrift, Pa. Violation of the Rules & Regulations 20.00

YORK COUNTY

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Beaverson, Amos, R. D. No. 5, York, Pa. Violation of the Rules & Regulations 20.00
Bucher, Harold, Mt. Wolf, Pa. Violation of the Rules & Regulations 20.00
Hartman, Earl, R. D. No. 5, York, Pa. Violation of the Rules & Regulations 20.00
Kope, H. R., R. D. No. 1, Manchester, Pa. Violation of the Rules & Regulations 20.00
Leonard, George, R. D. No. 3, York, Pa. Violation of the Rules & Regulations 20.00
McCleary, Robert S., 725 Susquehanna Ave., York, Pa. Violation of the Rules & Regulations 20.00
Shirey, Gordon, 40 S. Fourth St., Mt. Wolf, Pa. Violation of the Rules & Regulations 20.00
Shultz, Claude E., Spring Grove, Pa. Violation of the Rules & Regulations 20.00

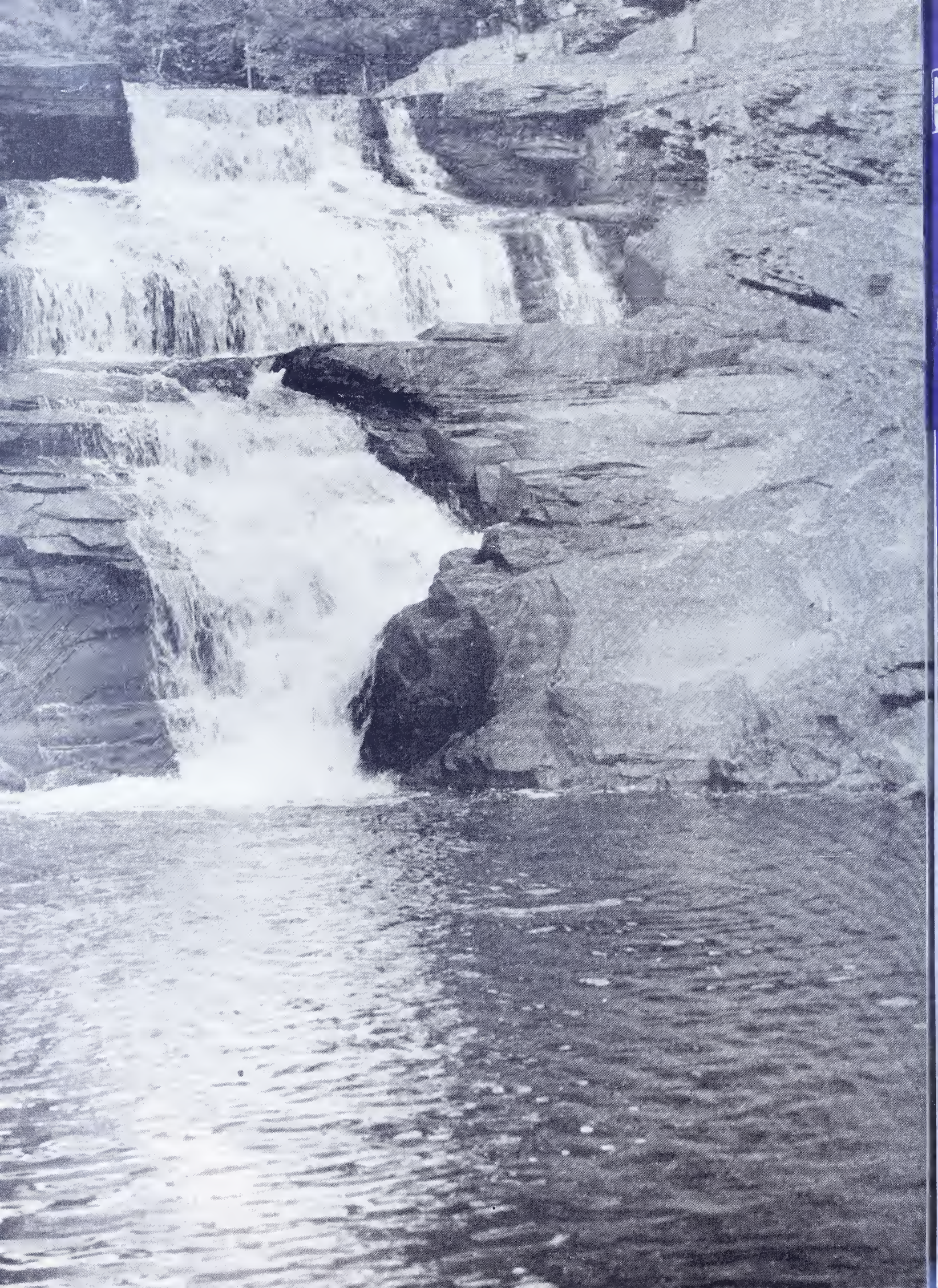
OUT OF STATE

Shrout, Bruce M., R. D. No. 3, Hazen Rd., Cumberland, Md. Violation of the Rules & Regulations 20.00
Shrout, Bruce M., R. D. No. 3, Hazen Rd., Cumberland, Md. Fishing without a license 25.00
Jones, Agness E., 1139 Broad St., Newark, N. J. Fishing without a license .. 25.00
Kirtz, Francis L., Hinsdale, N. Y. Fishing without a license 25.00

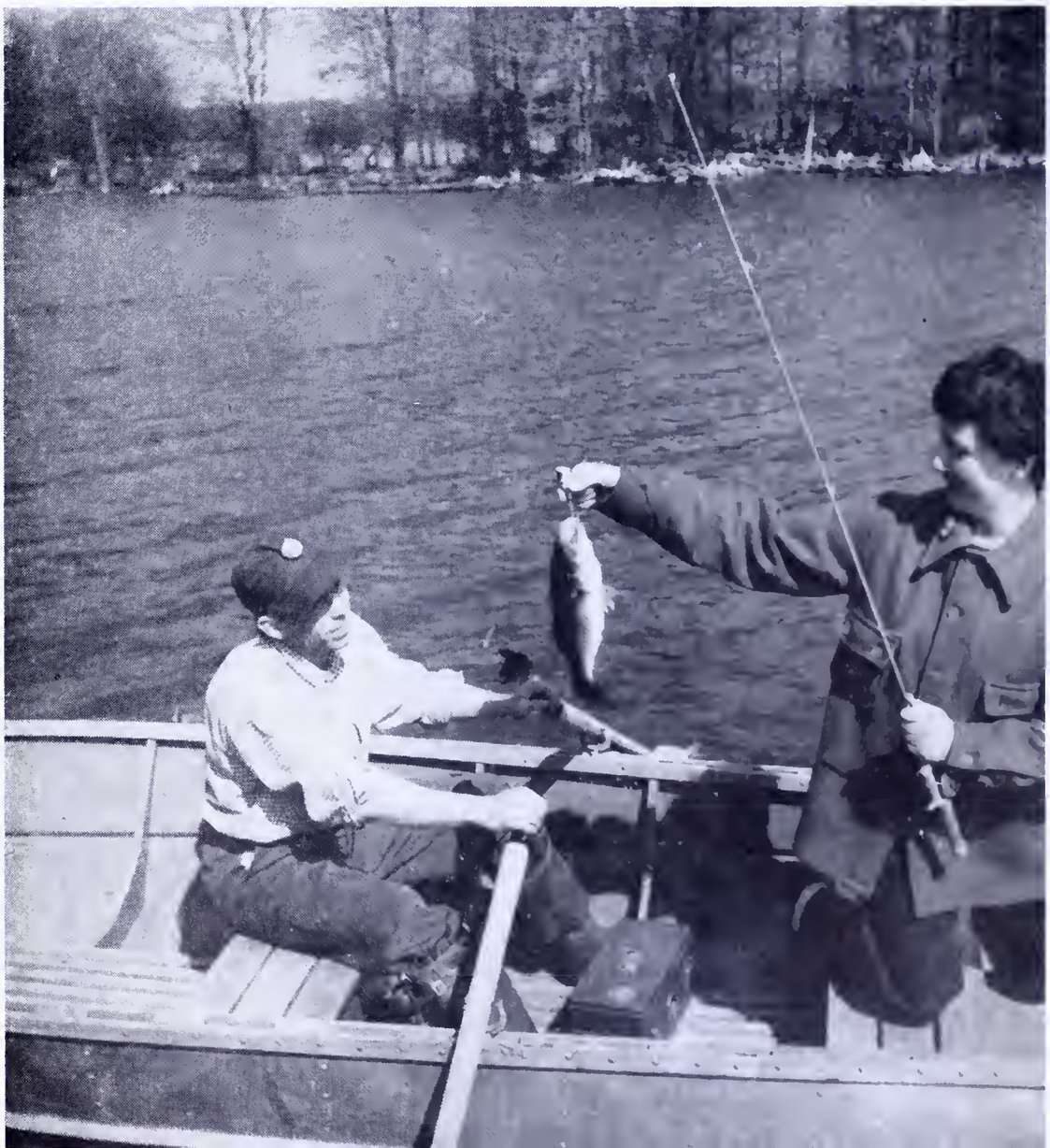
Paradise Host to 1766 Anglers On Opening Day

A total of 1766 fishermen of which 218 were lady anglers, caught 3314 trout on May 18, Opening Day at Fisherman's Paradise, Spring Creek in Centre County. A total of 518 fish were actually killed of the total caught including 283 brown and 235 rainbow trout.

A few of the larger fish taken: George Rakar, Ginter, Pa., caught a 5-pound, 22-inch brown; Joseph Frew, New Castle, Pa., caught a 4½-pound, 21½-inch rainbow and William Hunter, Jr., Beaverdale, Pa., took a 5-pound, 21½-inch brown. In the woman's section of the Paradise the record for Opening Day reads as follows: Mrs. A. C. Reynolds, Williamsburg, Pa., caught a 1-pound, 14-oz., 17½-inch brown, while Sarah Garver of Bellefonte was fortunate in landing a 1-pound, 12-oz., 17-inch rainbow.



PENNSYLVANIA Angler



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JULY
1951

That's How You'll Go For The

New Colorful

PENNSYLVANIA Angler

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PENNSYLVANIA Angler

Division of Public Relations . . . . . J. Allen Barrett—Director

JULY—1951 VOLUME XX, No. 7

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The Cover . . . That rough, tough, rowdy, old Bronzeback is back again. Blustery and cocky as a wise old ringneck, the black bass of Pennsylvania's warm water streams is head man from July 1 to November 30. Always proud of being a bully, he'll give you the bum's rush if you make him mad. Everyone admires and respects this magnificent battler for his fighting heart, courage and bulldog tactics.

George W. Forrest, Editor 1339 East Philadelphia Street, York, Pa.

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We feel much like a family moving into a new home for the first time. Everything has that odor of newness and you can hardly wait until a swift tour is made from cellar to attic.

The new ANGLER affects us in the same manner and we hope you'll find it catching. Not, mind you, that the old ANGLER wasn't good but somehow you get a big lift out of wearing a new suit or dress.

Certainly the new house has some strange nooks and crannies and you're bound to bump elbows on a few corners here and there. But, on the whole it has good, substantial value and we're proud to send it along to you each month.

We've also gotten a bit of cheerful color in the draperies on the premises which we hope will be pleasing to the eye and increase reading enjoyment. We invite you to take a look around, brouse among the treasury of stories and articles at your leisure.

If you find a little time we'd really appreciate getting a card or letter telling us how you liked thumbing through this issue.

Do You Just Belong?

Are you an active member, the kind that would be missed,
Or are you just contented that your name is on the list?
Do you attend the meetings and mingle with the crowd,
Or do you stay at home and crab both long and loud?
Do you take an active part to help the Alumni along?
Or are you satisfied to be the kind to "just belong"?
Or leave the work for just a few and talk about the clique?
There is quite a program scheduled that means success, if done,
And it can be accomplished with the help of everyone.
Don't be just a member, but take an active part,
Think this over, Member are we right or are we wrong?
Are you an active member, or Do You Just Belong?

—*The Tomahawk*
Tedyuscong Sports Assn.

We like getting letters from our readers like this one:

The Editor:

Thanks very much for the reminder of my renewal to the ANGLER. I enjoy reading the ANGLER very much. Congratulations for your Children's Page. A fine job. The ANGLER is sure worth more than 50c per year. You are doing a fine job, keep it up.

J. Frederick Wicker

Altoona, Pa.

Thanks kindly, Mr. Wicker, for your letter. Editors are supposed to have broad shoulders to shed the bumps and knocks. It's a pleasure to get a boost or even a nice complaint! Sometimes we get letters from far-off countries. For example, last month we received a letter from Lt. Col. R. Hoier, Chief Documentation Service, International Office for the Protection of Nature, Survival Service, Brussels, Belgium.

Now let's just confess, even the editor didn't know the ANGLER was sent this source. Lt. Col. Hoier thanked us for getting his copy of the ANGLER for their files.

Below is a letter from, a point not so far as Belgium, but it was a pleasure to hear from F. R. Moore in Cleveland, Ohio. You can just bet that Mr. Moore misses his home territory but if, in Pennsylvania's waters he secures a facsimile of his home state scenery and fishing, we're happy.

The Editor:

Enclosed my renewal for the ANGLER. May I take this opportunity to congratulate you upon the excellence of this periodical. I look forward to its arrival. It compares favorably in general interest with many of the national sports magazines.

To an ardent fly fisherman transplanted here from New Hampshire, your nearby state has managed to become an excellent substitute for those White Mountain trout streams.

F. R. Moore

Cleveland, Ohio.

Dear Editor:

Enclosed find money for the renewal of the ANGLER, a magazine I enjoy very much. I take other fishing and hunting magazines but they tell more about fishing in far away places which does not interest me because I do all my fishing in the waters of Pennsylvania.

I have one comment to make of the ANGLER. There is very little said about fishing in Erie County. I don't know if you know it or not but Erie County is the best place to fish in the state. Any time you want to fish, come to Erie. If the streams are high, we have several small lakes or the bay. If they are rough, there's good fishing from docks or piers. If waves are too high you can fish the lagoon on the peninsula where it's always calm. Now to show you how we do it up here, I am enclosing a piece I have written and you have my permission to publish it in the ANGLER if you care to do so.

C. O. HORNSTEIN

Erie, Pa.

You make Erie county fishing sound so swell, officials around the state office have to chain the editor to his typewriter to prevent a flight to that northwest chunk of Pennsylvania. We wish we had space here to publish that crackerjack bit of verse you sent, Mr. Hornstein. Perhaps we can slide it in a future issue.

Dear Editor:

Enclosed please find payment for my new issues of the PENNSYLVANIA ANGLER. I enjoyed it very much so far and have learned quite a bit. I also enjoyed the nice, clear pictures. It is not only educational concerning different localities and streams but it also has quite a bit of other wonderful reading matter. How can you print a magazine for so little? Lots of best wishes.

MARGARET SCHRUM

Lebanon, Pa.

Well, Mrs. Schrum, we have your money and we hope you'll get your money's worth of reading pleasure from future issues of the ANGLER. Space does not permit explaining how we send it to you month after month for so little cost.

FROM THE EDITOR'S ANGLE

RED *and* WHITE

By Keith C. Schuyler

All fishermen have their own favorite lures at they depend on when everything else ils. Then, if their favorite fails, they just ure that the fish aren't hitting.

I'm somewhat that way myself when it mes to trout. For instance, I almost always art out with a royal coachman dry fly. though I have never seen, or heard of, a tural that even faintly resembles the royal, is one of the best trout killers in the box r my money.

Others may feel differently about it. Hower, there is one lure that I can guarantee om experience as one of the best "all ound" lures that any angler can have among s tackle.

That is the red and white spoon.

Again, there is no natural bait that rembles the red and white, but it is a killer, d what is more, it will take any kind of me fish if used in the proper size. Furtherore, it will take practically any kind of pan h that have a mouth large enough to ke it.

The only fish that abound in most waters the eastern United States that I have failed take on the red and white are the eel and cker types of fish.

My first experience with the red and white as on our Pennsylvania chain pickerel. This vage carnivore has a wicked nature that mpels him to strike at anything flashy and ight, and the colorfully striped spoon is a tural for him. Ninety per cent of the pickel I have ever caught have been taken on is lure.

Although they probably wouldn't be interted in it as a steady diet, I one day caught catfish on the red and white while fishing a ream for the chain pickerel. Rock bass em especially addicted to the red and white, d I have taken rockies nearly as large as e spoon when fishing for great northern ke. Incidentally, I most heartily recomend this spoon for northerns when either olling or casting. It is exceptionally good bright, clear days when the pike are metimes reluctant to take anything else.

Rainbow trout are more partial to the tiny d and white fly-rod spoon than any other out in the streams that I fish. An occasional ownie or brookie will mistake the little oon for a minnow, but the rainbow is ually heading the rush for the red and hite when trout are on the feed.

The largest fresh water fish that I have er had on the end of a line was a huge uskellunge in a Canadian river, but the big ute shook the spoon before I could boat m. The spoon? Oh yes, it was red and white. e same day I caught another muskie on e same spoon, and I picked up a couple alleyes on that same spoon in between uskies.

Chubs, calico bass, perch and bluegills will ck the red and white indiscriminately. Frequently, I hook them anywhere but in the outh as they bang away at lures much too rge for them to even begin to swallow.

When it comes to the game bass, it is the rgemouth that shows more preference for y favorite spoon rather than his usually smaller, but scrappier cousin, the smallmouth. Although I prefer plugs or flies when fishing for bass, I have caught plenty of both the largemouth and small mouth when fishing for pike or pickerel with the red and white spoon.

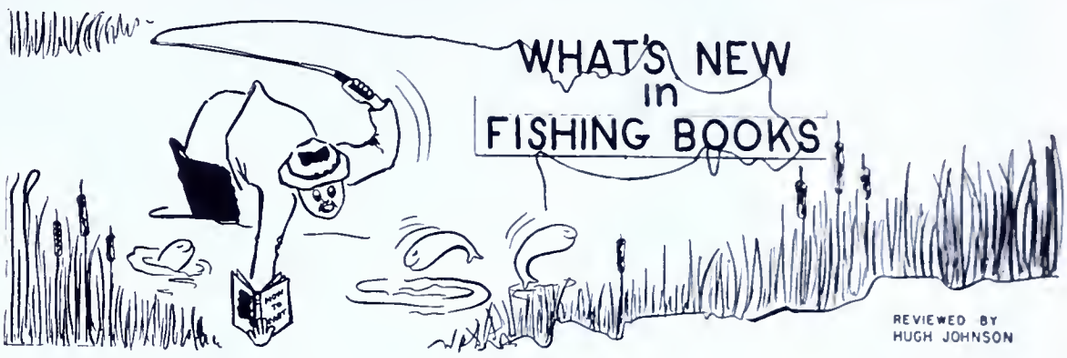
Since scientists now agree generally that fish are not color blind, it undoubtedly is the combination of red and white that attracts fish rather than the type of lure. However, the minnow-like action of the spoon makes it a desirable target for most feeding fish and for those of a pugnacious nature that impels them toward anything that enters their sphere of authority.

This theory would seem to prevail in the case of the royal coachman dry fly since the colors here again are predominately red and white. The brook trout is a sucker for the royal, and he will hit this bait oftener on bright days when the color of the fly is shown off to best advantage.

My favorite underwater lure for both large and smallmouth bass is the white plug with a red head. I have also had favorable results with this plug on walleyes.

In the case of the plug and dry fly, you might lay my preference to the red and white patterns to prejudice because of the success I have had with the spoon and because I naturally look for and use lures with this color combination. However, I absolutely refuse to budge an inch in my contention that the red and white spoon is the best all around lure for all game fish and many types of pan fish. Too often this lure has filled the frying pan for me when other lures failed.

Although I will not deny, and have learned from experience, that other lures are much better many times for all of the fish mentioned, and better all of the time for some of the fish, you will never find me on the stream or lake without a suitable size of the red and white spoon.



It would be a search indeed to find a nicer bunch of people between the covers of a book than the Cook family and their friends in the 280 pages of *More Fish To Fry* by Beatrice Cook (William Morrow and Company, New York, $3.00). Thousands of fishermen and their wives and ordinary people who neither fish nor live with fishermen but have the redeeming quality of liking good reading about real folk, met the wonderful Cook family in Beatrice Cook's first chronicle of her family's fishing frolics—*Till Fish Us Do Part*, published a year or so ago, a book which made history for a fishing book by finning its way on to best-seller lists throughout the country. *More Fish To Fry* should do the same because it is full of the same terrific vitality, the same soaring love for life and family, the same screeching reels and twanging of tight lines, the same wonderful believable people—with a few new characters thrown in that you'll *never* forget—and the same bouncing fun.

Anyone who reads this book will place the San Juan Islands of the Pacific Northwest at or very near the top of his list of places he would most like to visit for the purpose of fishing or of just drinking deep of life in the out-of-doors. If the silver salmon are not running, the big kings are, and if neither are active for the moment, there are always the scrappy rainbow trout in nearby fresh-water lakes. This account of the Cook family's summer during which they built their vacation place on Orcas Island is 90% fishing and a living, fun-filled lesson of how love for fishing can unify a family into a half-crazy, lovable, unbeatable human unit.

Typical of the real fun in this book is the story told of the old timer of one of the San Juan Islands who had a skiff he used to loan out to the Indians and the natives and who also had a daughter who was being courted by one of the young local farmers. The old-timer was deaf as a post and one evening the young farmer came to ask for his daughter's hand: "Can I have your . . ."

"How's that?" the father said, cupping his hand behind his ear. The suitor cleared his throat, took a deep breath and shouted again, "I say, *can I have your . . .*"

"Oh, sure," said the old-timer, "but I ought to warn yuh. Them Indians have drug her all over the beach and her bottom leaks a little."

For vacation reading or for anytime-reading you can't beat *More Fish To Fry.*

* * *

William Michael's love for dry-fly fishing glows throughout his *Dry-Fly Trout Fishing* (McGraw Hill Book Company, New York, $3.50). It's a solid, practical presentation covering every important aspect of fishing with the dry-fly. All the answers are here for the beginner, and there are review and stimulating reading for the expert. Ray Bergman in his Foreword to *Dry-Fly Trout Fishing* taps the value of the book accurately when he writes, in part: *Bill Michael is one of the most enthusiastic and devoted dry-fly fishermen I have ever known. In his book he has collected the high points from his many years of experience and has written about them in a style that will delight the reader. Informative as well as entertaining,* Dry-Fly Trout Fishing *is a book for both the novice and the experienced fisherman. It will occupy an honored place in my library.*

"HIS FISH ARE MADE OF WOOD"

Joe Schuld of Kingston beside a display of fresh water fish which he himself has carved from pieces of wood from all over the world. In his hands is a box full of salt water fish, and like the fresh water fish on display, they are carved from many different kinds of wood and painted in life-like manner.

JOE SCHULD of Meyers Lane, Kingston, a talented lyric baritone, expert angler and master wood-worker, has combined all three into a most unusual hobby. He received his inspiration for this unusual hobby from one of his favorite songs, "Trees," Joyce Kilmer's famous poem set to music. His interest in trees and wood aroused, Joe began collecting various kinds of wood and has carved almost every species of fresh and salt water fish from many of them.

His collection of woods includes more than 1,000 species and in his world-wide quest he has enlisted the aid of ambassadors, foreign diplomats and legations, high commissioners, soldiers and many other people from the four corners of the earth. His collection of rare and beautiful pieces of wood are from every country in the world and include such woods as the Aspen from Russia, the Kiri wood from Okinawa, Beechwood from Denmark, Khaya Senegolensis from French West Africa, Cyprus from the Isle of Cypris, Rota from New Zealand, Nogal from Spain and has more than 46 different kinds of wood from the Philippine Islands alone!

From this wood Joe carves miniature figures of the fresh and salt water fish. The fish number over 80 and include all the fresh water fish with the exception of the salmon which he is presently working on, and with the exception of a few has carved replicas of every fish known to live in salt water. Not content with having them carved from the pieces of wood obtained from all over the U. S., Canada and the world, Joe painstakingly hand paints each of them in a life-like manner. So exquisitely are they painted that it would be small surprise if when placed in water they would swim away!

No details are forgotten as Joe carves each fish from the blocks of rare wood. Glass beads are used for the eyes, then painted. In the case of the barracuda, even the vicious-looking teeth are inserted in the mouth.

He estimates that more than three hours were required to carve and paint each fish. Each is carved by hand, using only a small knife, and all measure between six and eight inches in length perfectly scaled down from life-size. The entire array was produced in the last three months in his spare time, that is, spare time not spent either working at a silk mill or angling on a favorite stream.

Carving these fish stemmed from his fondness for angling the streams of Pennsylvania. With bass, walleyes and catfish high on his list as favorite fish, it was not unusual to first carve these and thus begin his collection. Joe says his worst stumbling block was to find color reproductions of the various fi He says that he has yet to find two reprodu tions of fresh and salt water fish that a alike. He doesn't necessarily blame the ar t for leading him astray when he finds t brook trout with different colorations as realizes the printing inks used in repr ducing the paintings may not mix correc and then again, fish of the same species range differently in color from one anotl due to their environment and diet.

Joe has also found other uses for his hu collection of pieces of wood. His first proj t was carving an American Flag from wo Each star that represents a particular st was made from a piece of wood receiv from there. The stripes are an alternate st of white pine and red wood. He has a carved a map of the United States with ea state represented by a piece of wood receiv from that state. In addition to this he h also made a map of Pennsylvania with t various counties carved from wood receiv from those districts.

In his hobby Joe has few competitors!

If you have an unusual hobby dealing w fish or fishing, tell your story to the ANGL

he Hair Frog

By Don Shiner

The floating bass bug gave bass fly fishing greatest boost. Aside from being an ective method of catching bass, it is also ost fascinating. Even the thrill of dry fly hing for trout can scarcely surpass the rise a bronzeback to a surface bug.

There are many excellent bugs made in equal amount of various patterns. Undubtedly one of the oldest and best proctive lures is the hair bug which repreents a frog. It is a consistent fish getter in ost waters throughout the State.

These hair frogs are made of bucktail and ve either protruding hind legs or both ont and hind legs. Both are equally successful. The general color effect is the belly bottom which is white or cream, and it atters little what color the back or top is. e back or top of the lure can not be seen the bass as he views the bug from below. o much emphasis is placed upon the finish commercial lures in the floating variety. me are dotted or specked like a frog, hers with scales or colored streaks, but this lor is merely for the angler as bass can ly see the lure from underneath. Therere, it matters little in its effectiveness hether the bug is pure white, or merely white bottom and a red, green, yellow or mbination of colors on the back. However, the surface bug is colored closely to the teness of a frog, the angler has more faith the bug and uses it more efficiently.

Using it properly is an important factor. If live frog was observed swimming, it will noticed that it propells itself by a swift ove of its long hind legs, and then glides it draws its legs up close to its body in adiness for another shove. Use the imitaon frog identically the same. After it is cast d lands on the water, allow it to pause a w seconds and then retrieve with a short vift jerk. After the lure ends the glide, ntinue to retrieve with another short swift rk. The lure will respond in a "pump" d a glide much like a natural frog.

Using it at the correct and natural locaons often determines the successfulness. arely is a frog found swimming in the iddle of a lake. They only frequent the allow, weedy water, shoreline and lily ds. Cast the artificial only at these places, d make it appear as though the frog has mped into the water from a nearby log, eed bed or lily pad. Often if the lure is st so that it lands on shore and then rked into the water close by, it brings stant response.

In addition to the hair frog, some bugs presenting frogs are made with wood, cork, plastic bodies. Undoubtedly these too are ccessful, however, they do not have the ear life-like motion the buck hair bugs do. Often bass need to be teased into striking surface bug. Generally a hair frog cast reeatedly over the same area brings a sponse.

Remember, frogs are generally a steady iet for the bass, and if a few of these og lures are among your tackle you can est assured your day of "bassing bugging" ill be successful.

If you've never tried some of these surface lures for bass, you'd better read this article. They really work!

Trout Figures in Pennsylvania At-A-Glance

From Jan. 1 to April 14, 1951, the Pennsylvania Fish Commission stocked 1,225,310 trout of legal size, weighing a gross of about 190 tons, in public trout waters of the Keystone State. The mid-season stocking that followed added approximately 800,000 more legal trout—weighing about 124 tons —to the finny population of the trout streams.

The fish stockings covered 3,975 miles of streams, and trucks used in the gigantic operation covered 109,671 miles.

There were 6,625 stops made to "plant" the fish, an average of one stop every six-tenths of a mile.

The cost of fish food alone, exclusive of personnel and other expenses, in 1950 was $202,684.46.

Why worry because you're getting older? When you stop getting older, you're dead!

"A beauty! . . . and was he delicious!!"

Second Annual Meeting of the Pennsylvania Federation of Sportsmen's Clubs with the Pennsylvania Fish Commission

The second joint meeting of the Executive Directors of the Pennsylvania Federation of Sportsmen's Clubs wit the Pennsylvania Fish Commission was held at Bellefonte on Saturday, May 26, 1951. A very interesting report b C. A. French, Executive Director of the Fish Commission was made in which the Director outlined important a tivities of the Commission and its present program.

Front row seated reading left to right:—Philip E. Angle, Member of the Fish Commission; M. L. Peek, Pres. Fish Commission; H. R. Stackhous Adm. Sec'y Fish Commission; Ray Armstrong, 2nd V. Pres. Federation; C. A. French, Executive Director Fish Commission; Bernard S. Horne, V. Pre Fish Commission; J. H. Barkley, 1st V. Pres. Federation; Dale Furst, Pres. Federation; M. C. Merritts, Federation; C. R. Buller, Chief Fish Culturi Fish Commission; R. S. Cooper, Past Pres. Federation; Dr. C. A. Mortimer, Sec'y Treas. Federation; Louis S. Winner, Member of Fish Commissio Charles Nehf, Editor of Federation News and Ellen Dietrich of the Federation.

Second row standing left to right:—Theodore Koehler, Federation; W. W. Britton, Chief Enforcement Officer, Fish Commission; Charles W. Stoddar Jr., Federation; Robert C. Yake, Federation; Oscar A. Becker, Federation; Seth L. Myers, Federation; Carl A. White, Federation; C. LeRoy Fireston Federation; Ralph McGuigan, Federation; Glenn Dodds, Federation; Warren M. Columbia, Federation; H. Arthur Fox, Federation; H. M. B. Weicks Federation; Steve Emanuel, Federation and Howell Dietrich.

Minnow Study Slated for Lake Eri

At a recent meeting of the Michigan Fis Producer's Convention, held in Traverse Cit Mich., a resolution was adopted asking th Michigan Conservation Department to con duct a study of the effects upon fish life i the Great Lakes due to the great quantitie of minnows taken from the area for commer cial purposes.

Many fishermen feel that the food suppl of the commercial and game species of fish i being depleted by the commercial minno dealers who take millions of minnows dail from the Great Lakes.

This applies also to the Pennsylvania wate of Lake Erie, and fisheries management tech nicians of the Pennsylvania Fish Commissio propose to give this very careful study in th not too distant future.

STATE FISHING QUEEN for 1950, Mis Dottie McAnallen, Elwood City, receive National Award of Better Fishing Inc., fron J. Allen Barrett, Director, Public Relations Pennsylvania Fish Commission. The Elwoo City contest was sponsored by the Elwood Wampum Rod & Gun Club. Dottie's on pound, 8-ounce catfish copped the crown

Fish Commission Names New District Supervisors

CARLYLE S. SHELDON
Division Supervisor
Northwest Division

ounties: Beaver, Butler, Clarion, Craw-
rd, Erie, Forrest, Lawrence, Mercer,
Venango, Warren

HAROLD CORBIN
Division Supervisor
Southcentral Division

ounties: Bedford, Cumberland, Franklin,
ılton, Huntingdon, Juniata, Mifflin, Perry

MINTER C. JONES →
Division Supervisor
Southwest Division

ounties: Allegheny, Armstrong, Blair,
ambria, Greene, Fayette, Indiana, Jeffer-
on, Somerset, Washington, Westmoreland

↑ W. W. BRITTON
Chief Enforcement Officer

← C. A. BIDELSPACHER
Division Supervisor
North Central Division

Counties: Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Snyder, Tioga, Union

↑ C. W. SHEARER
Division Supervisor
Northeast Division

Counties: Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Susquehanna, Sullivan, Wayne, Wyoming

↑ JOHN S. OGDEN
Division Supervisor
Southeast Division

Counties: Adams, Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York

IF ANYBODY SNEEZED, it looks like the entire line-up would go down like dominoes. Yet, these fellows lined shoulder-to-shoulder, elbow-to-elbow had fun on opening day.

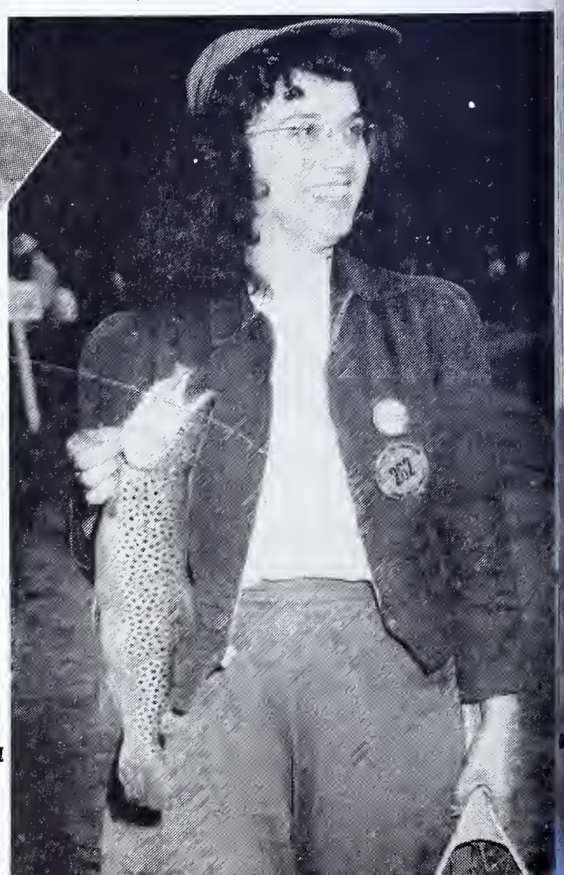
BLASTING A HOLE IN THE SURFACE, angler battles a good trout and he's got to be handled with care.

HOUSEWIFE MRS. BERGER, Williamsport, Pa., didn't wait for the men folks to fill the pot. She went right out and smacked into this lunker.

OPENING DAY FU

BOY WITH FISH photographed along road is Teddy Reynolds, Williamsburg, Pa., who wants to get home and show that big gent to Mom.

HAPPY WARRIOR AND BIG GRIN go together for Mrs. John Sedlac, R. D. 1, Fayette City, Pa. Nice one, isn't it?



A BEAUT! So says Joe Stovich, Cassandra, Pa., who wrassled with this 21-inch rainbow. Pal aside him isn't too much impressed. Kibitzers usually help you make catches with finesse!

SMALL FRY GET INTO THE ACT. Vista Ann DeLowe, daughter of Mr. and Mrs. N. M. DeLowe, R. F. D. 2, DuBois, Pa., was the 1,000th registrant on Opening Day.

Another year of record fishing, of many thrills and chills—at is the story of the 1951 season at the famous Fisherman's aradise, on Spring Creek in Centre County.

But the biggest drama of all occurred opening day this ear, when Clarence A. Humble, of Rossiter, Pa., tangled with monster trout, fought the fish for 2 hours, 25 minutes, then st it. Mr. Humble hooked the big trout on a nymph. ome 200 other Paradise anglers flocked to the spot and atched the battle, giving Mr. Humble plenty of room to ay his fish in a fine demonstration of sportsmanship.

The turnout for the opening day included 1,548 men and ys and 218 women and girls. They hooked 3,314 fish, but lled only 518.

Among big trout taken were a brown trout 22 inches long nd weighing 5 pounds, by George Baker, of Ginter, Pa.; a inbow 20½ inches long and weighing 4 pounds, 8 ounces,

FISHERMAN'S PARADISE

y Joseph Frew, of New Castle, Pa., and a brown trout 21½ ches long and weighing 5 pounds, by William Hunter, Jr., Beaverdale, Pa.

Mrs. A. C. Reynolds, of Williamsburg, Pa., caught a brown out 17½ inches long and weighing 1 pound, 14 ounces, and arah Garver, of Bellefonte, a rainbow trout 17 inches long at weighed 1 pound, 12 ounces.

Women continue to enjoy the Paradise in increasing umbers. In 1946 a total of 2,990 women were registered ere in 1950 the total rose to 4,514. The 1951 total is exected to be equally large.

These pictures at the Paradise were taken by George ordon, official photographer for the Pennsylvania Fish Comission.

T'S GONNA TAKE A BIG PAN but we'll make it according to D. H. rooks, R. D. No. 2, Connellsville, Pa., who was happy to get this t-inch brownie. →

EADING HIM TO THE NET. These fair anglers are very adept at e game on the women's section of the Paradise. The sidelines ot home this catch after a nice play.

Spawning HABITS of the BASS

By C. R. BULLER,
Chief Fish Culturist
Pennsylvania Fish Commission

★

Photos By
George Gordon
Official Photographer
Pennsylvania Fish Commission

WE often hear anglers referring to fish as being temperamental, in most cases the anglers having reference to their feeding habits.

Fish are temperamental in many other respects, and some of these characteristics present very grave problems to the technicians handling the fisheries management program and those responsible for the artificial raising of these fish. This is in special reference to the black bass—both the largemouth and the smallmouth.

These fish during the spawning period are greatly influenced by weather conditions. Sudden changes of temperature may cause the parent fish to leave the nest. Turbid water or rapid fluctuation in a stream may interfere with Nature's reproduction processes. These are factors over which humans have no control.

A sudden change of temperature during a spawning season is the most serious of these handicaps. It may induce the female to hold her eggs and not give them forth until she becomes what is known as "egg bound." The eggs, in turn, must be absorbed through her body system, causing her in many instances to become sterile. This is very serious for the hatchery manager.

Again the male fish, because of a sudden change of water temperature, may leave the nest of eggs; or, if the fry are already hatched, cold water may bring on external diseases among them. This is disastrous.

It follows that weather conditions during the spawning period of bass in a stream or lake may be responsible for the fishing conditions in a season three to five years hence.

Both the largemouth and the smallmouth bass are spring spawners. When the water temperature reaches the low sixties, the parent fish become active and begin to seek favorable spawning grounds or beds.

The male smallmouth bass prepares a nest on a bed of gravel. The nest or bed is made by cleaning the mud or sediment from the area, then the male entices the female to deposit her eggs there. As they are being deposited, the eggs are fertilized by the male.

The female bass will give forth at one time anywhere from 5,000 to 10,000 eggs, and in some instances a female may deposit eggs on more than one nest.

Smallmouth bass photographed in kind of environment in which it likes to spawn. Weather conditions influence spawning process.

Eggs are deposited in nest by female and fertilized by male. Female bass give forth 5,000 to 10,000 eggs.

The hatching period where the water temperature is from 65 to 68 degrees is from five to six days.

When the little fish hatch they drop down between the coarse gravel and the nest and cannot be observed for several days. As the yolk sac—from which they absorb their first nourishment—is absorbed, they gain in strength and each day swim nearer the surface of the water. About the fifth day after hatching they swim freely about the nest.

All during the period of incubation of the eggs and the development of the fry, the male fish carefully manages the home. While the eggs are developing he removes by fin and body action sediment that might smother the eggs. He drives away enemies, and when the eggs hatch he carefully guards and schools the young around the nest.

During this period the male fish is very pugnacious and would not hesitate to sacrifice his life to guard his family.

But after the average five-day period that it takes the little bass to develop and swim freely about after hatching, the parent then leaves them

on their own. A peculiarity of bass parenthood at this time is that if the male fish is hungry, he will not hesitate to devour his own family or that of a neighbor. This, of course, follows the protective period.

The largemouth bass spawn at about the same time as do the smallmouth, although the largemouth will select an entirely different kind of spawning area, if it is available.

Largemouth bass choose to deposit their eggs on submerged aquatic plants, logs and stumps, or similar objects. These areas are thoroughly cleared of sediment by the male fish and then the eggs are deposited on the area by the female.

The largemouth are much more productive than the smallmouth. It is not uncommon for a female largemouth to give forth 20,000 to 25,000 or more eggs.

In the family life the male largemouth is much more efficient as a parent than is his cousin, the smallmouth.

He also guards the eggs and the young, but he remains with his family a much longer time. It is not unusual for the parent largemouth to protect a school of largemouth fry for two to three weeks after they hatch. The parent fish has been observed guarding schools of their offspring when the fry measure close to three-quarters of an inch.

Again, after the school breaks up and each little bass goes its own way, the devoted parent may satisfy his appetite with his own offspring.

The fecundity of a fish is in proportion to the toll that Nature intends to take upon it.

Largemouth bass usually are found in lakes and ponds and smallmouth bass in larger streams and rivers.

The Pennsylvania Fish Commission grows bass at its hatcheries located at Pleasant Mount, Bellefonte, Union City, Tionesta, and Linesville, and a few are produced at the Reynoldsdale plant.

PREVENT FOREST FIRES
KEEP
PENNSYLVANIA
GREEN
GROW MORE TREES

Fish Gills

BELLOWS OF LIFE

Oxygen in . . . Carbon Dioxide out, gills are marvelous precision instruments of Nature.

By RICHARD WILLIAMSON

NATURE has done a marvelous job in constructing the gills which enable fish to obtain supplies of oxygen which are necessary to sustain life even in creatures which live in the water.

In lay language, the gill of a fish is an organ composed of a thin membrane through which blood inside the gill discharges carbon dioxide into the water which passes through the gill and which at the same time makes it possible for the blood to absorb oxygen from the water.

This discharge of carbon dioxide and intake of oxygen are possible because the membrane of the gills contains capillaries, which are minute blood vessels. It is through the walls of these capillaries that the interchange between the blood of the fish and the water in which it lives takes place.

The belief that a fish draws quantities of water into its gill cavities through the gills, absorbs the oxygen, and then discharges the water through the gills is not wholly accurate. Actually, the fish takes quantities of water into its mouth, then closes the mouth and forces the water out through the gills.

It should be noted, incidentally, that some species of fish do not take water into their bodies through their mouths. Some kinds of sharks, for example, draw water through organs called spiracles, which are holes in their heads, located near the eyes.

The flow of water through the gills is continuous—as is the breathin an animal or a human being, who charges carbon dioxide and take fresh supplies of oxygen from the which is breathed into the lu where membrane containing ca laries performs the same functio the membrane in the gills of a fis

Nature has not equipped fish any organ to break water into its ments and separate the oxygen w they need. In other words, fish use only that oxygen which is scientists call free or dissolved in water. Cold water and water whic tumbled over riffles—a process ca aeration usually contains a maxin amount of oxygen, and fish thriv it. Water that is warm or stag may contain a minimum amoun oxygen. Fish usually thrive and active in clean, cool, running water die in stagnant or polluted wate which dissolved oxygen has been pleted.

Surface activity of fish may be served often when the water temp ture is high or in slow-moving wa There is a logical reason for this. all water the oxygen content is hig near the surface, where the wate in direct contact with the air.

In streams where conditions ideal for fish life the oxygen cont of the water is sufficient at all dep and there is no need for fish to s out those more heavily charged u levels of water in their efforts to k alive.

ills of a fish are located at a
t where the body joins the head.
ograph by George H. Gordon,
tographer for the Pennsylvania Fish
mission.

is picture shows the construction of
membrane inside a gill, through
h the blood of the fish discharges
on dioxide and takes in oxygen
the water which passes through
organ. Photo by George H.
don, Pennsylvania Fish Commission.

The Bass That Ate Itself to Death

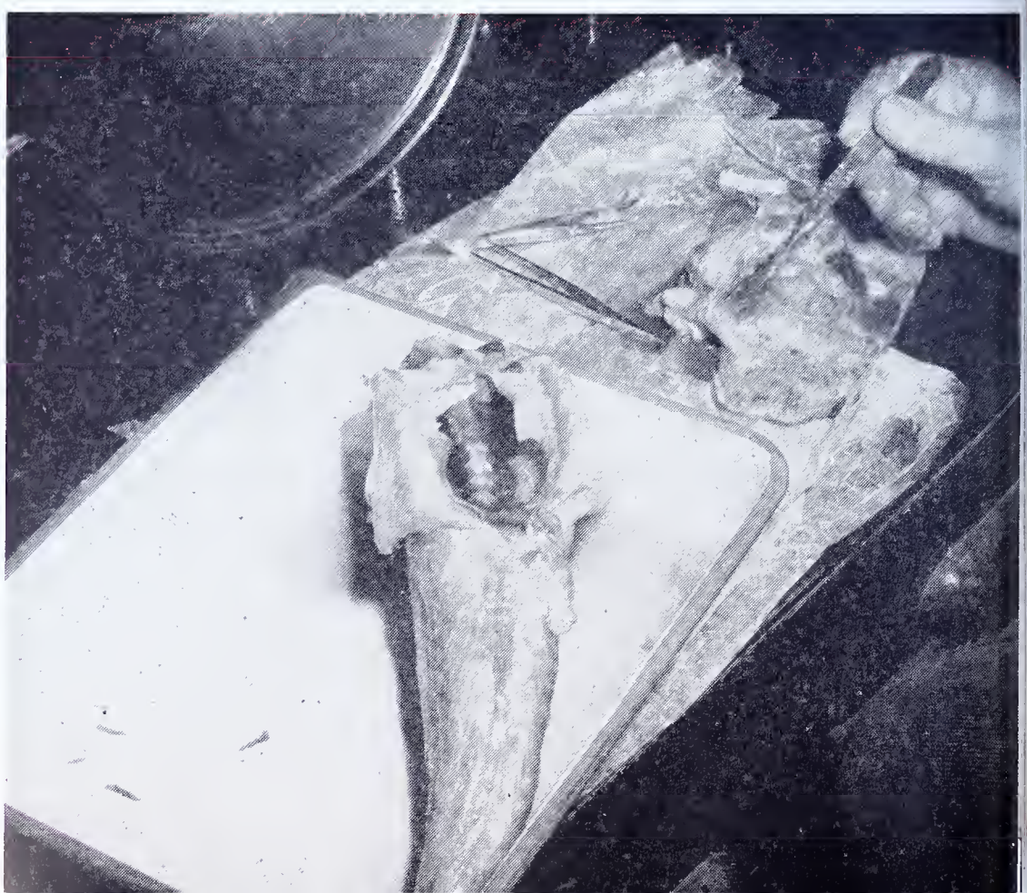
This is the story in pictures of a mature largemouth bass, 16 inches in length, that literally ate itself to death.

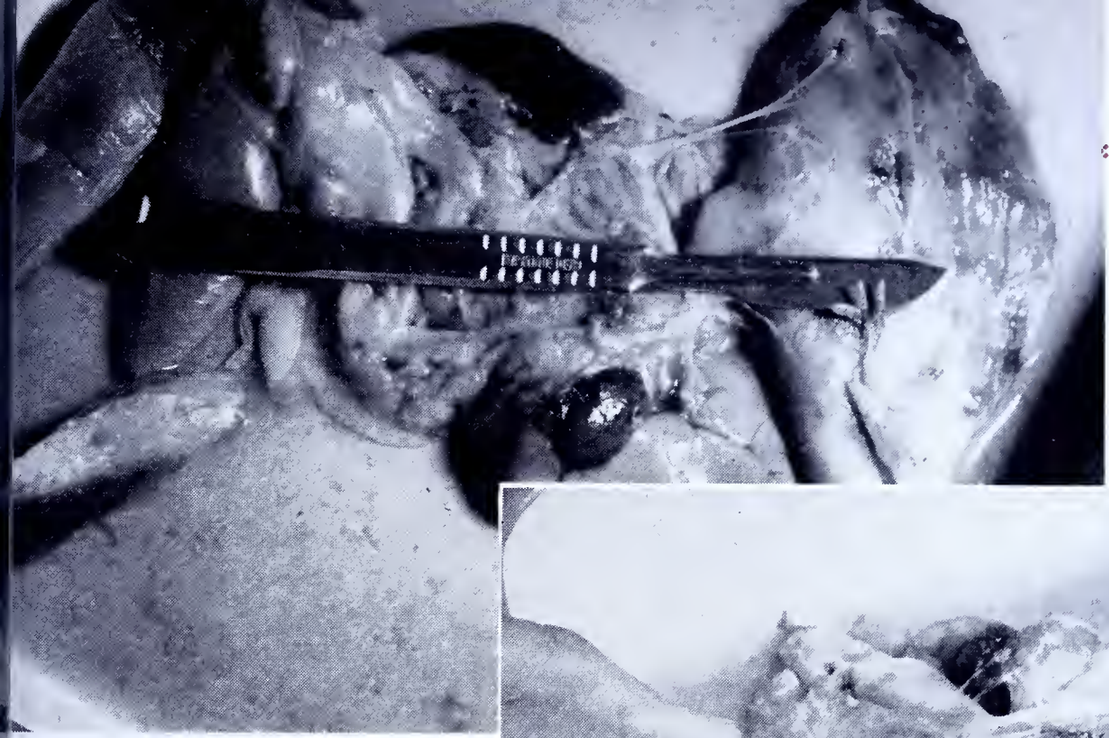
All kinds of problems are presented to the corps of technicians at the Fisheries Research Laboratory at Bellefonte. One of the many which has been brought to their recent attention is this particular bass which was sent in for an autopsy, found dead in a Pennsylvania lake.

Arthur Bradford, pathologist for the Pennsylvania Fish Commission, dissected the fish in a search for the cause of its death, while George Gordon, photographer for the Pennsylvania Fish Commission, made a picture record of the work.

The bass's own healthy appetite led to its destruction. The fish had gorged itself on several brown bullhead catfish in its lake home. For some abnormal reason the spines of the catfish worked through the walls of the stomach and spread into all parts of the body cavity of the bass instead of being absorbed in the normal manner.

Between 25 and 30 of the catfish spines were removed by Mr. Bradford from the body tissues of the gluttonous bronzeback. The size of the spines indicated that the catfish the bass ate were six or seven inches in length.





How the spines worked into the flesh of the bass is evident here. Three of them protrude from the tissue against the blade of the pathologist's scalpel.

t Left—Pathologist Arthur Bradford begins king catfish spines out of the body tissues of bass as the autopsy gets under way.

ower Left—More spines are uncovered, many them in portions of the body far removed from stomach. Five of the spines are lying on the tom of the white tray.

With tweezers Mr. Bradford digs out a couple more spines. Dark spots in the tissue mark the resting place of others. The elongated organ is the stomach of the fish.

Size of the deadly brown catfish spines can be judged when they are photographed beside a book of paper matches. Notice the saw-like left edge of the longest spine, fourth from the right.

Some BAS

By Bill

Here's a bass yarn by ica door writers you're go b all about bronzeback arn

AS NEARLY everyone in Pennsylvania knows—except those few who think fishing is something done commercially with nets and setlines—June 30 is the day *before* bass season opens in this State. Naturally, that would be the day I would pick to meet one of the most interesting bass I have ever known. It was a chance meeting, entirely unexpected, else I would have arranged it to happen the next day, July 1, when bass would have been in season. I was fishing for trout at the time in the upper part of Octoraro Creek near Atglen, and was having considerable luck despite the hot weather and the low water of that summer some years back. A McGinty pattern tied on a No. 10 streamer hook with a short shank was taking trout consistenly for me, although all the rules indicated I should have been using a small wet or dry fly at that time of the year.

Even before encountering the bass, I had a bit of a surprise when I caught a 13½-inch brook trout, although the Octoraro was stocked then only with rainbow trout. Feeling rather pleased with this novelty, I moved downstream from where I had taken the brookie, and started to fish a nice, fast run of water. My backcast was made over a quiet pool behind me, and, as I lengthened line to reach more of the fast stretch. I must have become careless because on one of the backcasts the fly, leader and part of the line dropped on the still water.

Without looking around, I continued the forward cast, and stopped sharply midway because I was caught on something. A log or rock in the water, I thought, and turned to see. Well, I was caught, all right, but so was the bass on the other end of the line. We were pretty well fast to each other, as I could see when it took to the air in the beautiful manner of smallmouths. It must have taken the small streamer the moment it touched the water on my sloppy backcast, and it was large enough to bring my arm to a jarring stop when I had tried to lift the line on the forward cast.

Getting turned around in position to fight back, while trying to keep a taut line on a strong fish bent on going some other place, gave me some awkward moments, but it was accomplished somehow, and the battle was on. I could describe the fight with that bass in some detail, but won't except to say that it was a young fish, full of energy, and it took advantage of every chance it had to shake the hook, leaping at times, sunfishing downward at other times, trying to work the leader around something that would break it.

What I do want to mention, though, is that I never caught any fish of equal weight, regardless of species, that gave me a more rugged struggle or tired my wrist and arm more than did that smallmouth bass. This was due in part to the fact that it was a smallmouth in the first place, that it was in its prime, and was the exceptional fighter that one occasionally finds even in this fighting species; but it was due principally to those qualities combined with the lightweight trout tackle used.

Since it was released, I could only guess at its weight, but it must have gone at least two pounds, certainly no record-breaker among smallmouths; but a very nice fish to take on a four-ounce fly rod and a leader tapered to 4X. I had to play it carefully until it tired, because I couldn't even budge it with that tackle when it decided not to give ground, and certainly couldn't have horsed it in. My wrist actually grew sore from

turning the butt to keep steady tension on the line in the long fight, and when it was brought to the shore I had the deep satisfaction of having won a fair battle. It wouldn't have been nearly as interesting a fish to meet if I had been introduced to via heavier "bass" tackle, whatev bass tackle is.

Long before that incident, howeve I had wondered why anglers consi ered it sporting to fish for trout wi

I have MET

**ica's top out-
because it's
n balliwick!**

light tackle, but went about bass fishing in heavy-handed manner. There was nothing original about the thought; many others have wondered the same thing, especially after being introduced to bass on light fly rod gear. One of my chief pleasures has been fishing some of Pennsylvania's smaller — and even larger — bass streams exactly as I would for trout, with the exception that I seldom use the tiny flies often employed in trout fishing.

Wet flies and streamers tied on No. 10, 8 and 6 hooks cast easily. For the low clear water usually found in summer bass fishing, the leader should not be heavier than 1X and can profitably be tapered down to 4X. I do not like as long a leader as for trout fishing because I sometimes switch to little metal lures or small bass bugs, and these do not cast well with a lengthy leader. An 8-foot, 4-ounce rod is fine for small, brushy streams; a larger rod can be used on bigger water.

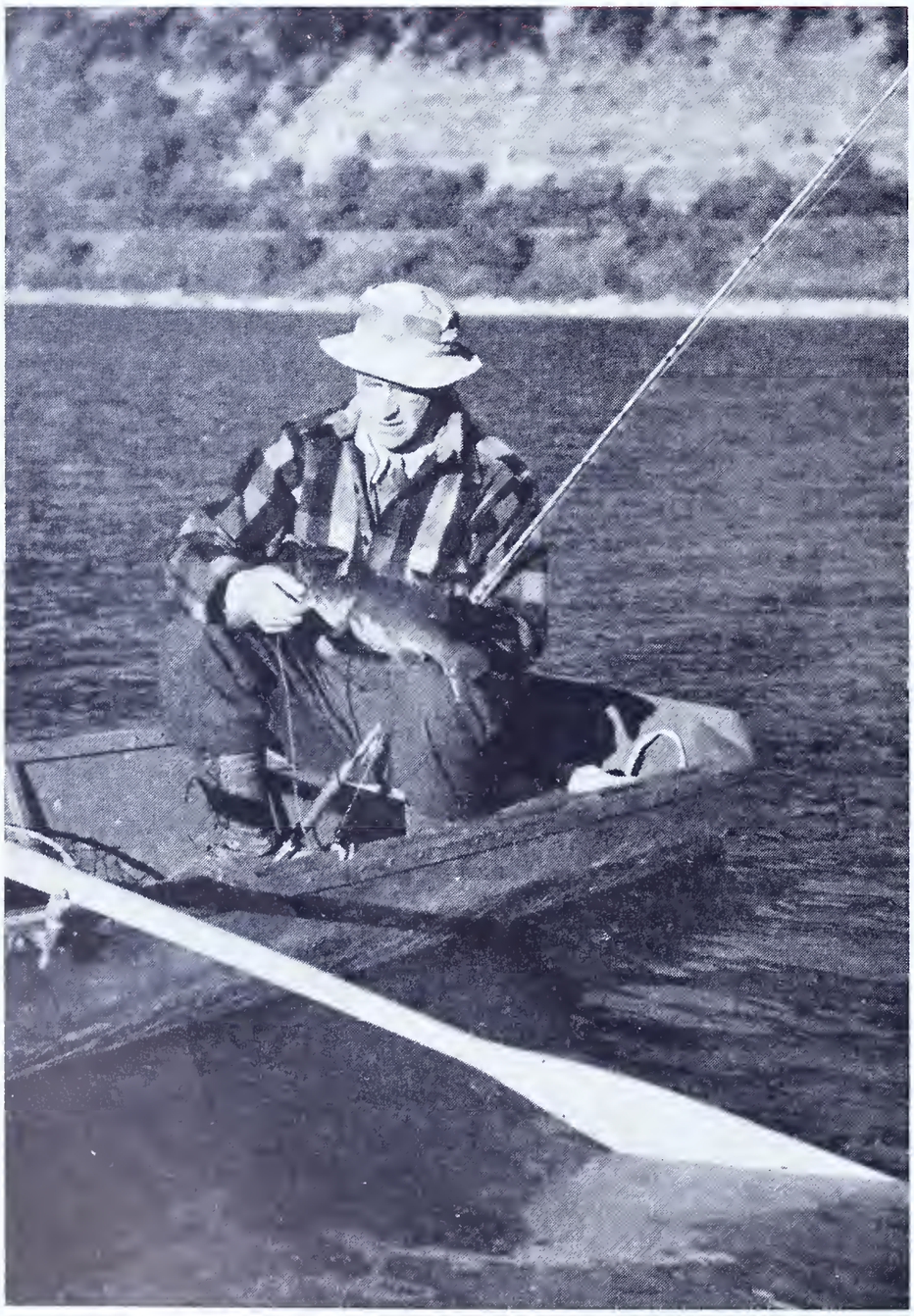
Then there were some bass I met on Bermudian Creek in York county when armed with a plug rod. This is a small stream for plugging, but I had a wonderful time until a violent thunderstorm broke and practically washed me and Fred Boerner out of the stream. There was something about the imminence of the storm that set the bass to feeding furiously, and I cast to rises only. They were rising everywhere. I would no sooner get a bass on than I'd see a larger one leaping clear of the water a short distance away. At least, it always looked larger than the one I had hooked, and I could hardly wait to get the smaller one off before going after the bigger one. It was a dizzy race with me trying to catch as many fish as I could before the storm, and it wound up with me half-blinded by rain pouring over my glasses, floundering back to the car.

But I had fun while it lasted, and enjoyed shaking hands with those bass, so to speak, through the medium of the short rod. I believe the bait-casting, or plug rod, is overlooked as a means of fishing a small stream. It is difficult to use at times, but you learn to flip out the lure from all angles which can't help but improve your casting generally. The fly rod will take more bass on a small stream than a plug rod, but you most likely will catch larger fish on the latter. And it is surprising how large bass do grow in the occasional nice pools that even the smallest stream holds.

However, you can't use the huge plugs and spoons common to lake and river fishing. You have to get down in the three-eighths and quarter ounce class, and this means that your rod

(*Turn to page* 28)

Big Water For Big Bass



By John Alden Knight

When Mr. Knight goes all out for bass, better stick around. The bard of the world famous Solunar Tables gives the Susquehanna a whirl. Let's see what happens.

IN 1940, when we returned to Williamsport after 30 years of living in the metropolitan areas, one of the first things I did was to inquire about the bass fishing. The reports were discouraging. "Only fair," the boys told me; "the West Branch of the Susquehanna is seriously polluted and so is Big Pine Creek. Your best bet, probably, would be the lower pools of Lycoming Creek or the Loyalsock.

"What about the North Branch of the Susquehanna?" I asked. "That's supposed to be good bass water."

"Jack," my informant said, "tha river is no good for you. You don' like to fish with bait. The Nortl Branch is definitely a live-bait stream Artificials simply don't catch fish ove there."

I expressed some disbelief at this After all, smallmouth are smallmouth no matter where you find them. Wh shouldn't they take artificial lure there just as well as in the Delaware or the St. Croix or any other goo bass river?

"Too much food," he said. "S many crawfish and minnows in th river that they won't look at artifi cials. *Good* fishermen have tried i plenty of times. Believe me, if yo go over there you'd better take som bait with you."

I'm a gullible sort of a fellow, so I stayed away from the North Branch that fall. But I thought about it a great deal. So that winter I made some more inquiries. I learned that Frank (Chalky) Bauder of this city had been catching some bass over in the North Branch, using a fly rod and bass bugs. I didn't know Chalky then but I made it my business to meet him.

"That's right," he told me. "We catch them on bass bugs at night. No use fishing artificials in the daytime."

Again I expressed doubt. Why are those bass so different from any other bass? The outcome of this conversation was an invitation to come over to Chalky's camp when the season opened and find out for myself.

Bass season eventually arrived and with it came heavy rains which brought the river up a couple of feet above normal. Not until July 12th did it seem worthwhile to drive over and have a go at the smallmouth. To be sure, the river was still discolored but it was down to fishing levels so we decided to try it.

Chalky was extremely skeptical about the whole business. He refused to fish; wouldn't even bring his tackle along. He said he would row the boat and see how it was done. Later he told me that he expected me to catch exactly nothing.

I had planned my trip so that I would reach Chalky's camp well in advance of the major Solunar Period for that day. It was scheduled for around two o'clock, so we had a leisurely lunch in the shade of the big trees around the camp. The sun was bright and very hot and the water

ooked like coffee. Frankly, it did not ook encouraging. I noticed, however, hat the water along shore seemed omewhat clearer than that of the ain current, allowing about three or our feet of visibility.

Upstream from Chalky's camp is a ong "flat" or "level," as these pools re known in the Wyalusing country. suppose it is half a mile long. At he lower end of this flat an island has ormed and at one side of the island he bulk of the flow narrows down into deep channel which terminates in a hite-water riffle of serious proportions. The channel is about one hunred yards long and it is paved with uge boulders. It makes an ideal ome for big smallmouth.

I told Chalky where to hold the boat nd then I began spotting a bass bug long that beautiful shore line. On the econd cast a small bass took the lure olidly. He was legal size all right ut not what we were after so we eturned him to the water with intructions to grow up.

About three casts later it happened. had placed the bug in a likely lookng pocket and had started to retrieve in short, irregular jumps or jerks cross the surface. When the bug was bout twenty feet from shore a big ass started from the pocket, ripped cross the surface, his dorsal fin out of ater, and fell on that bug like a wolf n a rabbit. I set the hook and yelled o Chalky to pull the boat up into the eeper pool. Then I tried to jockey Mr. Bass up out of the heavy current f the channel. For a while it was nip nd tuck whether or not we would ave to go down through the riffles with im but steady pressure of the big ly rod won out and I played him to he net in the quieter, deeper water f the main pool.

When Chalky had removed the hook nd secured the bass on the stringer e sat there on the rower's seat holdng the fish in his hands and looking t him as though he couldn't believe hat he was seeing. He didn't say nything—simply sat there looking t the fish, then at me, then back at he fish. At last he dropped him over he side and we went to work in arnest. I think we caught fourteen ass that day, keeping three or four nd returning the rest.

When the feeding period had passed nd the fast action had slowed down ve shot the rapids, rowed back to amp, and put the fish in the live box. The weather was hot so we didn't vork too hard at our fishing, being ontent to fish through the Solunar Periods and loaf in the shade during he off hours.

I had to go home the following afternoon and I took with me six bass anging from sixteen inches to twenty-two inches. The big boy weighed a little better than four pounds. That's not a bad mess of smallmouth to be taken on a bass bug during the daylight hours from a "live-bait stream."

Since 1940 we have learned a great deal about the North Branch of the Susquehanna, particularly in the general vicinity of Wyalusing. We have fished its pleasant waters and we have watched others fish them. Contrary to the earlier opinion, live-bait fishing is *not* the best way to fish this river. Consider, by way of example, what happened on July 1st, 1942.

Chalky and I had engaged our boat at least two weeks before opening day, so we took our time about reaching the river. During the minor Solunar Period, which came about midmorning, we picked up two fair bass. Then we knocked off, went over to the hotel for a hot lunch, and fished again through the major feeding period that afternoon. When evening came we showed up at the dock with eleven bass which weighed exactly twenty-two pounds. Four of these topped the three and one-half mark and one weighed nearly four and a half. In all, we fished about five hours, using fly rods and bass bugs entirely.

Meanwhile every boat on the river was busy. For some reason, best known to the bass themselves, live bait was not what the bass wanted that day. Of the eleven boats at our boat livery, four returned at dusk fishless while the others brought in only one or two bass to the boat.

For the past thirty years a great deal of our bass fishing has been done in the upper reaches of the Delaware River of New York State. In the vicinity of Deposit, New York, the river is small and easily wadable and the fishing for small bass is excellent. It was in these friendly waters that my son, Dick, learned about bass fishing.

The average bass that you catch in this section of the river is about eleven inches. Now and then you do pick up a two-pounder but he is the exception rather than the rule. This part of the river is the nursery where the small bass grow up. Gradually, as their size increases, the fish move downstream to the more spacious waters. If you are looking for large bass (and what bass fisherman isn't) the place to get them is in the vicinity of Delaware Water Gap.

Over a period of many years we have checked this theory of annual downstream movement. Of course, individual big bass can be found most anywhere, providing there is fairly deep water in which a large fish can make his home. But believe me, if you want your catch to *average* fairly large, the place to do your fishing is down in the big water where most of the big bass live.

One of the finest times to find out what sort of fish and how many of them your favorite bass pools hold is to be on hand when a good hatch of May flies is drifting. These flies are named variously—drakes, fish flies,

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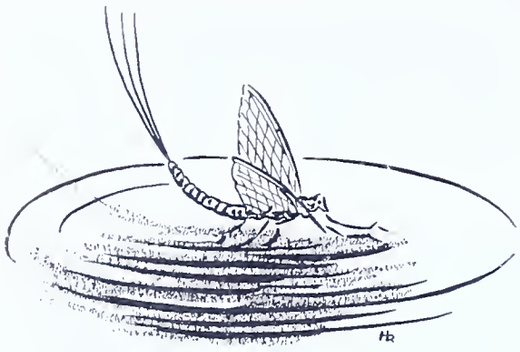

DOC HENSHALL and the BLACK BASS

By Jim Hayes

Here's another authentic story by ex-newspaperman Jim Hayes who is now recognized as a top writer in the outdoor field. Remember his "Izaak Walton, Where He Fished" that appeared in the ANGLER, then reprinted many times throughout the nation?

MENTION bass to an angler, and—if he has ever cast for the fish—things will immediately begin to click in his mind.

He may think of the swirling strike of a river smallmouth. Lake scenes may come to mind. Lilypads, cattails, the V-ripple of a plug being retrieved across a mirror surface.

And, if the fisherman knows something of the background of his sport, one thing more—a name—must be present to complete the picture.

Doc Henshall was a fly-tier, a doctor, and the greatest bass fisherman who ever lived. In an era of exacting standards, he was the best in his specialty, which was catching bass. He chose his lures like a bridge player picking trumps, cast them with unerring accuracy, and played down his catches with skill, finesse, and sportsmanship.

He fished over twenty States, in Canada, and also took a fishing trip around the world. He tested the fighting abilities of nearly every freshwater fish. And gave his heart to the black bass. It is, he said, "inch for inch and pound for pound, the gamest fish that swims."

And ever since, wherever anglers meet to argue the comparative merits of trout and bass, the Doc's statement is quoted to support the bass. And rightly so. For wasn't Doc Henshall the discoverer of bass and bass fishing?

He was the discoverer in the sense that although the fish inhabited American waters long before Columbus, it remained for Henshall to promote the bass as a game, courageous and valiant fish, worthy of the attentions of the most skillful fishermen.

Portly, dignified, with full sweeping moustache, pince-nez spectacles, and a fish-shaped silver tiepin, he was a movie-version of the typical 19th Century physician. In his lifetime he was never known to pass up a fishing trip. Although it cannot be denied that babies, whooping cough, and the devil's storehouse of human ailments threw more than one expedition off schedule.

Born on February 29, 1836 in Baltimore, Maryland, James Alexander Henshall was the son of Reverend James G. and Clarissa Holt Henshall. Here, on the ponds and brooks of his native Maryland, he first essayed the angler's art, "and made sad havoc among the minnows, chubs and gudgeons."

Henshall received his early education in schools of Baltimore, New York and Cincinnati, graduating in 1860 from Eclectic Medical Institute of Cincinnati. Upon completing his studies, he entered into medical practice, a profession which was to claim the next thirty years of his life. Once established, he met and in 1860 married Hester S. Ferguson, settling in his bride's home-town of Cincinnati.

Concurrent with his formal education, he underwent a course of streamside studies wherever and whenever the opportunity presented itself. For, Henshall was that type of angler which Izaak Walton aptly described as "born so." And like Walton the iron-monger, it was knowledge of fish and fishing which was to immortalize Henshall the physician.

In his vocation and avocation, Dr. Henshall found for many years a happy combination. His scientific background was a valuable supplement to his practical fishing techniques. In fishing he found a recreational outlet for his scientific mind—plus pleasur relaxation, and peace-of-mind. To hin it was the perfect sport.

The backdrop against which this i played, anglingwise, was one of tran sition. For this was an era in whic the native brook trout was in shar decline, and which saw much promo tion of other species to replace th charr as King of fresh waters. Rev Myron H. Reed, an angler of the time made this prediction:

"This will probably be the last gen eration of trout fishers. Not that th trout will cease to be. They will b hatched by machinery, and raised i ponds, and fattened on chopped liver and grow flabby and lose their spot . . . Gross feeding and easy pond lif will deprave him."

Today, we can see how the dark prophesy of Rev. Reed fell short o full materialization. For those wh will invade his wilderness habitats, th native trout lives still; and if his numbers have diminished, his glory ha yet to fade. And secondly, it was th hatchery trout which was to ascend t popularity.

But to anglers of the late 1800s an early 1900s, not possessing insight int the future, the promotion of anothe

sh to succeed the declining brookie as a critical issue. It was a lively opic in the pages of sporting magazines, and in the conversation of fishermen. More important, it posed a roblem of deep concern to those interested in preserving and furthering the port of angling.

The new species must be a game sh, fleshy and spectacular. He must e a ready feeder, yet able to withstand heavy fishing pressures. He must e easily propagated and adaptable to aried water conditions. And, finally, e must possess qualities which would

ndear him to the hearts of anglers.

To Dr. Henshall, only one fish met ll these qualifications — the Black Bass. In the following paragraphs, which are typical of his logic and clarity of thought, he presents his reasons:

"The Black Bass is eminently an American fish, and has been said to e representative in his characteristics. He has the faculty of asserting himself and making himself completely at ome wherever placed. He is plucky, game, brave and unyielding to the last when hooked. He has the arrowry ush and vigor of the trout, the untiring strength and bold leap of the salmon, while he has a system of fighting tactics peculiarly his own.

"He will rise to the artificial fly as readily as the salmon or the brook rout, under the same conditions, and will take the live minnow, or other live bait, under any and all circumstances avorable to the taking of any other ish. I consider him, *inch for inch and pound for pound,* the gamest fish that swims. The royal salmon and the lordly trout must yield the palm to a black bass of equal weight."

Not surprisingly, promotion of the bass was not an easy task. The fish had first been noticed as a new species by Spanish explorers in Florida in 1605, and again in 1721 by Jesuit missionaries in Canada. However, prior to publication of Henshall's book, it had never rated highly as a game fish. In the North, the trout reigned supreme among sporting fishes. And in the South, especially in Florida, the bass—though ruthlessly exploited as a food fish—was sadly underrated for fighting qualities.

This, in 1881, was the world into which Dr. Henshall brought forth his *Book of the Black Bass.* Popularly written and well founded in fact, it was one-half the culmination of many years of research into the history and habits of bass. The second half, *More About The Bass,* was to be forthcoming in 1889.

Although Henshall was already widely known as a fishing expert, publication of his book rocketed him to still greater fame. In 1891 he was elected president of the American Fisheries Society. And in 1893 he served as chief of the Fisheries Department at the Chicago Exposition.

All this, together with his innumerable trips, took him further and further from his medical practice. In the 1890's a sign bearing the notice "Gone Fishing" appeared on the door to his office with increasing frequency.

Finally, in 1896, at the age of sixty, the lure of the outdoors could no longer be denied. Leaving his practice, he entered the service of the U. S. Bureau of Fisheries to give his full time to fish culture and research. His first appointment was as superintendent of the hatchery at Bozeman, Montana. Here he achieved one of his many "firsts" in successfully propagating the grayling.

In 1909, Dr. Henshall was transferred to the hatchery at Tupelo, Miss., to continue his work, specializing now on the black bass. Long an admirer of the bass, he delved still deeper into the life habits of the fish. It was a labor of love for Henshall, whose high regard for the bass is evident in these lines from his book:

Place him in thy creel;
Lay him tenderly on a bed of ferns,
Crisp, green and cool with sparkling morning dew—
A warrior in repose!

In addition to being a physician, author, angling expert, and staff member of several highly reputable societies, he was also a poet, and while at Bozeman wrote a book of poetry titled *Ye Gods and Little Fishes.* He was a staunch conservationist, too, at a time when "conservation" was little more than a word in the dictionary.

Although the idea that America's natural resources were limited, instead of inexhaustable, had been proposed by others in advance of Henshall's time, he was nevertheless a leader in the conservation movement at the turn of the century.

In April, 1923, writing in *Outlook Magazine*, he noted that, "One of the greatest and most important economic problems of the present age is how to prevent pollution of our public waters and to restore them to something of their natural conditions."

An extremely productive writer, Dr. Henshall contributed to many sporting journals of his day, including *Outing, Forest and Field,* the *Chicago Field,* and others. In several of them, chapters of his famous book first saw print.

Material for these articles was drawn from his vast knowledge of fish lore, as well as from his countless fishing trips. He fished often, and distance was never a handicap. His fondest memories of Pennsylvania were of his bass quests on the Susquehanna and the blue Juniata.

Dr. Henshall retired in 1917, due to failing eyesight, but continued with his fishing and writing. With his death in 1925 at his home in Cincinnati, the bass tribe and anglers everywhere lost a staunch friend.

Today, many of his theories and methods concerning fish culture are in widespread use, and his bass fishing

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By Don Shiner

Forgotten streams or little known brooks would seem to be few and far between, but if you secure a good map it's amazing how many obscure streams can be seen under the glass.

THERE are many interesting adventures astream in waters right near home for those who feel rebellious at the crowded conditions generally encountered at local streams. Annually the army of fishermen increases, yet the miles of fishable water remain the same, or in some cases decrease due to the posting of some streams. Yet today, in spite of the tremendous mileage of roads, making more country easily accessible, there is still ample opportunity to venture astream where it is rare to meet another fisherman and where, miles from the nearest town or settlement, the surroundings are trampled by few men.

Many of the hundreds of such Pennsylvania streams lying just beyond the beaten path are filled with spruce trout. Although these beautiful fish do not go beyond the nine and ten inch mark, fishing for them is such a pleasure that fishermen feel compelled to return week after week during the trout season.

There are so many such locations that no one could possibly know them all or visit them within a decade. Many of these streams which go unfished year after year, provide interesting outings for fishermen. The brook trout at times do not run much over the legal limit, but they are always ready and waiting for the offering of the angler. They can put up some extremely lively battles. Occasionally when a larger one is found, it can be very efficient at wrapping the leader around a stump or some old snag and making a get-away. These trout are exceedingly wary too! Out among the very secluded country, miles from the settlements of man, the trout need t rely on their instincts more than eve to keep alive.

There are minks, the snakes, the rac coons and occasionally a kingfisher t contend with. They are far more cau tious than the trout which are accus tomed to fishermen wading down th center of the stream. A shadow, a slight earth tremor or an unusuall loud splash will send the brook trou scurrying for cover. They seldom wil reappear until more than a half hou passes when they feel reassured tha the coast is clear again.

It takes patience to stalk thes spruce trout. It takes maneuvering t reach out over a cluster of limbs an dabble a small fly over the pool; bu it pays dividends in fish and in fun Angling these out of the way and littl known streams also can provide fisher men with a chance to see and explor new territory and get away from th general crowded streams.

There are many such streams i Pennsylvania that are seldom visite

(*Turn to page 27*)

Right—It's necessary to keep down low and out of sight when fishing for wary natives.

SPINNER and FROG FOR BASS

By Dick Fortney

THERE are two things that can cause a lot of excitement in the orld of water in which black bass le.

One of them is a glittering, tantalizig spinner.

The other is a lively, kicking frog. When the two, the spinner and the fog, are combined they are one of the st lures that can be used in fishing r both smallmouths and largeouths.

I got acquainted with the frog and inner combination on a trip to Canda. My guide told me that, because bad weather, bass fishing had been ow, but he confided that he had come with a method that had never iled to produce fish, including some ally good ones.

At his direction, I attached a spinner fairly good size to the leader on e end of my casting line. To the inner a snelled hook was snapped, d on the snelled hook the guide paled a small green frog—one of e kind that is plentiful in swampy ound, not the edible ones.

The bass liked the combination, all ght, and in the next two weeks went to action every time the spinner and og was tried.

One method of fishing the combinaon proved especially effective. The ide paddled the canoe slowly, and e spinner and frog were trolled about or 35 feet behind. The idea was to ove the lure only fast enough to rn the spinner lazily, the slow speed the same time allowing the frog to nk well down into the water.

The reaction of the bass was peculiar. A hard, vicious strike was expected, but instead bass which took the frog struck with a couple of gentle bumps. They were easily hooked, and once the barb of the hook was set they put on the show that can always be expected of a bass.

One other fact is worth noting. Every bass taken on this combination lure was hooked in the lips and easily released. So the frog and spinner combination was not nearly so likely to destroy a small fish as would some other type of bait fished on a single hook.

The frog and spinner combination also proved an effective casting lure. I was using a whippy glass casting rod six feet in length, a 12-pound test line, and a free-running reel. It was no trick at all, with this outfit, to cast the lure 40 or 50 feet in spite of its lack of bulk and weight. And when it was cast and then slowly retrieved it did as good a job as when it was trolled behind a canoe.

One thing we had to watch for in fishing with this combination was short strikes from the bass. These usually occurred when the frogs were hooked through the lips. The guide's solution of the problem was to hook the frog by the crotch.

The frog and spinner combination was especially effective in river bays and in inland lakes, in beds of lilies and other aquatic vegetation. In trolling, the canoe usually was kept moving along the outer edges of these beds of weeds. In casting, however, it was possible to get the lure into open water among the weeds, and there were only a few times when the spinner or the frog became fouled with weeds.

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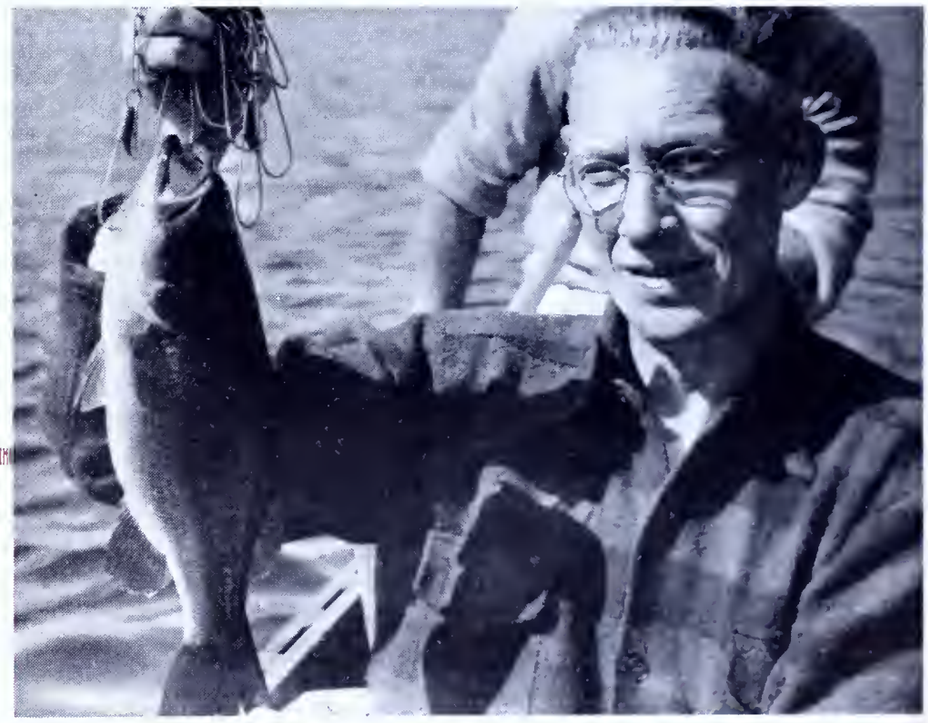


Right—A combination of frog and spinner proved the downfall of this four-pound bass. The fish was caught while the lure was being trolled behind a slowly moving canoe.

Below—Water along the edge of a patch of lily pads or other aquatic vegetation is ideal for exploring with the frog and spinner lure.

LIKE BIRDS— FISH BUILD NESTS TOO!

NEST-BUILDING is an art usually associated only with birds. But the fact is that many species of fish build nests in which are placed the eggs from which their young are hatched.

Usually the nest is nothing more than a space which the fish, by fanning with its fins and with movements of its body, clear on the bottom of a stream or pond, where the eggs are deposited, and where the fish stands guard over them during the period of incubation.

But there also are some rather unusual types of nests.

Little fish called sticklebacks build nests by binding together grass or weeds with a sticky substance secreted from the body.

Several other species make nests of air bubbles, which are blown from the mouth and have walls of a sticky substance.

Even in fishes which do not build nests there is special care of the eggs that perpetuate the species.

Some fishes have pouches on their bellies in which the eggs are deposited and retained until they hatch. Others lay their eggs in the shells of mollusks. Some sea catfish carry their eggs in their mouths.

Still other fish eggs have adhesive substances which hold them to rocks and vegetation until they hatch. In some species, such as the yellow perch, the eggs are contained in gelatin-like masses which protect them during incubation.

Nature is lavish in the number of eggs it permits fish to produce during the spawning season. This is because, even with the best care, the eggs of all species of fish are subject to weather and water conditions, and often the depredations of other fish, that make their mortality rate relatively high.

Pa. Fish Commission Resumes Summer Studies on Lakes

The Fish Management Unit of the Pennsylvania Fish Commission begins its summer investigations of fish life on Harvey Lake, Luzerne County, this year. This marks the third summer that these studies have been in progress. The purpose of this work is to set up future management policies for all the waters examined.

Included in the studies are determinations of the abundance of the various species of fish in the lakes, their food and rates of growth. Chemical, physical and other studies related to living conditions of fish are conducted.

Field headquarters for this interesting work is a trailer equipped as a mobile laboratory which, with other equipment, is temporarily set up on the shores of the lakes studied.

Leader of this work is Gordon L. Trembley, Chief Aquatic Biologist of the Fish Commission, who will be assisted by four trained helpers.

Harvey Lake is the second largest natural lake in the commonwealth, one of the deepest and one of the very few which supports lake trout. Work on Harvey Lake will begin in mid-June and continue for two to three weeks, after which the management unit will move to other lakes of the northeast.

SPINNER AND FROG FOR BASS

(*From page* 23)

The frog and spinner lure ha proved just as effective here in Penn sylvania. Naturally it would in lake and ponds where there are quie shallow bays and plenty of aquati vegetation.

But it also takes bass in rivers an creeks. Streams and pools are idea areas for careful angling with th spinner and frog.

Trolling from a boat is good wher such craft are available, but since th average angler in Pennsylvania wade as he fishes for bass the castin method is most useful.

There the light glass casting rod i just the ticket.

The lure has to be handled care fully, for the frog can be whipped of the hook without much trouble, an it is desirable to make as little dis turbance as possible in the water o the cast.

The size of the spinner and of th frog is pretty much a matter for th angler to decide for himself. It wil depend to some extent on the size o the water that is fished and on th size of the bass that are likely to b caught.

My own favorites are a frog of smal or medium size—never a really bi one—and a spinner about the size o my thumb nail, for example an Indi ana spinner in Size 3.

Being accustomed to fishing for bas with a spinner and fly, I was a bi

ıbious when my guide told me to ;tach a snelled hook to the spinner. 'ıat meant there was a distance of ;x or eight inches between the spinner ;d the frog.

But that didn't make any difference. .pparently, the glitter of the spinner ;tracted the attention of the bass, and 'hen the fish approached to investi- ;te it saw the frog, recognized a nat- 'al bait of which it is fond, and took ;e frog.

The depth at which the lure is fished ;pends largely on the feeding mood the bass.

Sometimes it is necessary to troll · to retrieve very slowly, so that the ›inner and frog have a chance to sink ›wn in the water to a fair depth. gain, it may be necessary to move ıe lure rather swiftly to keep it gher in the water.

The reason for using a large spin- er, of course, is that it reacts more ısily to water pressure and will move ; a slower rate of retrieve than a nall spinner would.

A final note: It pays to have a good ıpply of frogs on hand and to keep ıe hook baited with one that is lively. ven when a dead frog is trolled or ıst and retrieved it does not have the ttraction for bass that a live frog ffers.

And even the attractive glitter of a ıoving spinner will not offset the life- ;ssness of a bait that has been in the 'ater too long.

BIG WATER FOR BIG BASS

(*From page* 19)

offin flies, caddis, shad flies, and so on –but the correct name is "May fly." 'ou know the kind; the flies with the ›ng, graceful bodies, which hold the vings erect while drifting on the sur- ace of the streams. They are native nhabitants of all good smallmouth 'ivers, at least all that I have fished.

In early August these insect hatches ıre drifting each evening and the bass ıave an orgy of feeding. In view of he interest the bass show in this sea- ;onal treat it is reasonable to suppose hat a high percentage of them is ;howing at the surface. Obviously it s impossible to count them but the ıumber of out-size bass in any pool ›f any good bass river will surprise 'ou.

Fishing for them at these times is ;reat sport. To do it successfully you nust learn something of the waters and the behavior of the bass that live there. At sundown, when the insects begin to drift, a great many of the bass move out of deep water and up into the riffle at the head of the pool, no doubt operating on the theory of first-come, first served. They take up feeding stations in the fast water and there they spend an hour or so, stuffing themselves with May flies. To row about at the foot of the riffle only serves to disturb the fish and put them down. It is best to anchor in an advantageous position somewhat ahead of sundown and then wait until the action starts. Then with a big fly rod and some artificial May flies you can really have a time until darkness puts a stop to the activity.

When the cold nights of October put a chill in the waters of your river, the smaller fish seem to discontinue feeding and prepare for winter hibernation. Not so the big bass. They will continue to take artificials until freezing temperatures and the close of the season force your retirement from the bass waters. You probably won't catch as many bass during the late fall days but the ones you do catch are usually potential tackle-busters. Big water—big fish; that is a pretty reliable rule to guide you in your choice of bass waters.

"Darling! You remembered my birthday!!"

Our Anglerettes — FOR AND ABOUT MILADY ANGLER

By ELLEN A. DIETRICH

One Hour of Paradise on Paradise While the Shad Flies Flew

'Twas just before dark.

In fact, 'twas eight o'clock on the evening of a perfect day, a Saturday late in May.

A storm was brewing in the distance, however. Our angler and anglerette, who scarcely more than an hour before had dropped in on Pennsylvania's famous Fishermen's Paradise near Bellefonte, crossed their fingers and hoped that the skies would hold their moisture 'til nine. At that hour the official Paradise klaxon would sound its warning to all fishermen to leave the stream for the weekend.

Approximately a thousand fishermen and women, by actual count, were on the noted Spring Creek Project. Our angler hubby and anglerette wife were lined up among them, he on one bank and she on t'other.

During that first hour, they had seen a number of beauties skillfully brought to net, some upstream and some down. In fact, as they had checked in at the registration booth, they had witnessed an exultant anglerette proudly and excitedly checking out with a lunker that she had landed on the ladies' section of the stream. The sight of several lady-caught fish, to be sure, had spurred our anglerette on to zealous effort. She had carefully and patiently thereafter tried a number of samples from her varied assortment of "sure killers"—"artificial lures of hair or feather construction," in accordance with regulation 7 on the rules card she had received at the registration booth. Also in accordance with rule 7, she had carefully eliminated the barb from each hook as she had attached each fly, for its trial period, to her leader.

But, for some mysterious reason or other, the fish just *weren't* cooperating at eight o'clock—neither upstream nor down, our anglerette observed.

The man on her left had brought in a sizeable one a half hour before. Inasmuch as he had killed it, in accordance with regulation 6, he had had to stop fishing at that time. The boy on her right was having trouble rescuing his favorite fly from a branch of a tree. There was, therefore, no other lure being offered the finny ones right then in the immediate location of our anglerette's vantage point. This fact should have provided an *ad*vantage point, she thought. Further, she was using the lure she had counted on most—a black gnat that she was positive would fool even the wisest of trout. But it didn't.

Everything *seemed* just right, she reflected; but something was decidedly *wrong*.

At this juncture, an unusual commotion in the water caused her to peer into the stream. As she did so, she was amazed to witness many, many fish darting madly here and there—among them, some of the largest trout she had ever seen! Earlier, the stream had presented the appearance of any other stream. The fish, true to "fishy habit," had remained out of sight and comparatively motionless, except when one fell prey to a clever lure cleverly manipulated by an even more clever angler or anglerette who had out-smarted the hidden quarry.

FISHING WITHOUT A LICENSE, is one year old anglerette Lynn Gail Geyer, daughter of Mr. & Mrs. Richard Geyer, Bethlehem, Pa. Now, it's just a question of which plug in the tackle box will take 'em!

Within a matter of minutes, however, the water of that famous Fishermen's Paradise was like none other in the entire world. It was fairly *seething* with trout. Fish—thousands of them—were *suddenly* feeding, *frantically* feeding. On what, our puzzled anglerette didn't at first know. But she was soon to learn.

Within another matter of minutes, she observed a dainty, yellowish-white, winged creature emerge from the stream and take off like a grateful, though silent, tiny plane from its watery airport. It flew about a bit and finally settled on the surface of the stream. Then another and another and still another, 'til soon there were hundreds of those fragile, flying creatures performing before her fascinated gaze. That magnificent stretch of stream—so calm before—became still more alive, with floating flies above it and frantically feeding fish within it—some feeding under water, others feeding from the surface and still others breaking upward and landing with resounding "ker-flops" as they captured flies that they apparently easily recognized as the "real McCoy."

Our anglerette was tempted to pinch herself to make certain that she wasn't experiencing a nightmare, as she viewed so many huge trout so suddenly and so carelessly disclosing their whereabouts. She reached a negative conclusion, however; for, other fishermen and women about her, including her hubby, were also marveling at the phenomenon which was by that time occurring all along the famous stretch. As they watched the multitude of over-size trout appear, disappear and re-appear, spectators and anglers alike, remarked: "How truly appropriate the name 'FISHERMEN'S PARADISE'!"

"Shad flies!" excitedly yelled someone to someone else upstream. "Do you have an artificial shad fly, by any chance?"

Come to think of it, our anglerette, too had an artificial shad fly in her possession. Tweezers, pliers and dexterous fingers that were suddenly all thumbs made a comparatively quick change.—And another shad fly that wasn't a shad fly joined the shad flies that flew on the Paradise that evening!

Meanwhile, the storm broke over the Spring Creek Project, bringing with it heavy rain and a strong wind.

Unmindful of the downpour, milady completed changing her lure and resumed her casting. Just then her foot slipped on a pebble. And it was then, of course, that she had her strike! She arighted herself quickly. But quickly wasn't soon enough for that trout. With the usual disdain and bravado of an escaped creature, the monster threw the false shad fly out of his mouth almost as swiftly as he sampled it; and milady, "setting up" on empty space, found the hook returning, *fishless*, to greet her.

The klaxon warned that it was nine o'clock. Wifey joined hubby, who had already sought shelter in their car.

"Let's come here again before July 18th, the closing date," suggested our angler, as he turned the nose of the car homeward.

"Second the motion!" agreed his wife—with gusto.

SEARCH FOR A NEW TROUT STREAM

(*From page 22*)

y fishermen. Small mountain streams nd brooks that trickle from springs nd beaver dams, winding their way mong the spruce, the ash and hem- ck tree, bubble unceasingly toward e fertile valleys below. For some it equires a walk of more than one, two, ree or even four miles over paths, ld roads or railroad beds to reach em. But this is nothing more than good healthy walk on a warm sum- er morning when the sight of a bbit, a bluebird or a redwing erases y thoughts of the long distance. It rovides a chance to wander about e woodlands, to see the huckleberry lossoms, the black berries, the laurel nd to taste the air filled with the scent f spruce and hemlock.

It is not advised that a trip be made some remote area to search pellmell r a mountain stream that is thought exist somewhere. It is too easy to ecome lost! The safest and most scien- fic way to find a stream is by search- g for one over a map of a particular ection. The United States Geological urvey has mapped the entire area of ennsylvania and cut it up into small uadrangle maps measuring 20 by 30 ches. On these maps are listed the ountain ranges, the elevations of early every point, the streams, the wamps, the old logging roads and as any establishments of men as there ere at the time the map was drawn. t shows the nearest town, the county ines, and every lake or beaver dam hat is large enough for marking. hese maps are worth many time the 0 cents a copy which they cost. hrough the use of them, a certain ountain stream or beaver dam can e selected and a route chosen for ar- iving there. The mileage can be hecked accurately on these which are nade to scale.

Having searched such a map, many idden streams, will be found. Per- aps it may call for driving by car long the main-highway until one of he secondary roads is reached, pro- eding from there over an old logging oad and a hike of an additional mile r more to reach the stream. There s adventure all along the way.

During the search for the stream, arry the map with you, occasionally aying it on the ground to orient it to compass and to check the distance raveled or how much farther ahead he stream is. For this kind of fish- ng, it is best to travel light, leaving nuch of the standard fishing tackle at home. There will be no need for a landing net, for a huge box of flies or lures, for hip-boots or an expensive rod. Carry only essential items: —a good sharp pocket knife, some waterproof matches, a camera, a good substantial lunch, a compass, the U. S. Geological map, a short two or three piece light action rod, a few spare leaders and some repellent to protect you from the mosquitoes, chiggers and gnats. Above all, make sure your walking boots are comfortable so that your feet do not become hurt during the hike. Then, if you hike quite a considerable distance, be sure to start back so there is ample time to reach the car or the highway before sundown.

A companion is good company to have along on these exploring trips for there is less chance of two becoming lost. Both will enjoy the new scenery and will call one another's attention to a particular high mountain point, the valley below, or the small water fall in the stream or the particular singing noise as the water rushes down the rocky obstacle course. This is all part of this kind of fishing.

Then too, if a small frying pan is included with some eggs, bacon, a few potatoes and buns, a small fire can be built along the stream for cooking a tasty outdoor meal. Make sure, however, the fire is completely out when ready to depart. It is a good suggestion to build only a small one close to the water's edge, where there will be little chance that it will get out of control since water can be quickly splashed over the hot coals at the time of departure.

These out of the way small streams are favorite haunts of the beaver. Occasionally the stream can be followed until its source is found. Sometimes it begins with a spring which flows into a beaver dam, where the water being deeper and greater in volume, often holds more and larger brook trout. Few beaver dams should be passed up for some nice size fish can often be found in them.

Sometimes these same swampy beaver dams contain catfish and pike. How the fish get into such out-of-the- way places is a mystery, unless, as one elderly fisherman suggested, ducks coming into contact with the spawn of these fish, got it tangled with their feathers and feet and carried it from one pond to another.

Sometimes the fish in these wilderness beaver dams are unusually large, much larger than generally found elsewhere in wilderness streams. Whether or not this is due to the flooding of new lands thereby providing more food and more water, is not known. But it is a good assumption.

Regardless whether or not the fish are large or small, whether or not the limit is caught and carried home in the creel, in fishing these out of the way streams, the angler will find few other fishermen. Here he will be close to nature, deep within the country, where only the songs of an occasional lark, a bluejay, or the bark of a squirrel or the rushing noise of the brook are all that is heard. A change could not be more complete from the heavily fished streams with highways running almost parallel to the water and crowded stream banks.

"The six-wheel car is coming," says a motor expert. The average pedestrian is apathetic. By the time the two front ones have passed over him, he is past caring how many more there are.

"We were wondering what happened to you."

SOME BASS I HAVE MET

(*From page* 17)

must be long and light, and your reel capable of handling such small lures when loaded with line no heavier than six-pound test. The 5½-foot and 6-foot rod is sometimes hard to handle in brush, but is necessary, although some of the shorter new glass rods are flexible enough to cast fairly small lures.

Spinning might seem at first glance the solution to small stream fishing for bass, but it isn't. The shortest spinning rod is longer than the longest plug rod, and this recent useful addition to our ways of fishing simply isn't as accurate as plug casting, and accuracy is imperative on a little stream filled with obstacles and lined with trees and brush. It is possible to "shoot" a plug almost as straight as a thrown ball, but the spinning cast must be somewhat looping and it isn't as accurate. One thing about plugging a small creek: The lure should be cast well beyond the spot where you think a bass might be so its splash doesn't frighten the fish.

As in the case of the Bermudian Creek, a sudden feeding urge sometimes will reveal exactly how many smallmouth bass a minor stream can hold, and the number is amazing. I know one little creek very well, and often have watched from high above some good pool while the bass in it cruised around in the shallows looking for food (it was almost impossible to catch them except on some live bait like a grasshopper dropped lightly on the surface), but even this well-known stream amazed me one day with its bass population when I happened to be present during a heavy insect hatch. I was fishing what I had always considered a quiet, and not too interesting, pool when great numbers of some large brown drakes appeared, and the pool came to boiling life. From beneath tree roots and undercut banks, and from the dark depths, the bass arose to leap clear of the water and bow in greeting before plunging back, each with an insect in its mouth. I was licked with a plug rod, but the friend with me made hay with a fly rod in the brief while the excitement lasted before the pool returned to its normal, placid life as the hatch ended. I never saw such activity there again, but always thereafter fished the pool with the knowledge that it held many bass.

So far, I have mentioned only chance encounters with smallmouth bass. I have met some largemouths, however, under out-of-the-ordinary circumstances. If I had my choice, I would fish for smallmouths in preference to the large mouths; but would be the last person in the world to actually scorn the latter. They are interesting to know, too, even if in lesser degree.

About ten years ago, the baker who delivered bread at the house said he recalled fishing a tiny pond when he was younger, and that it held bass. He wondered whether the pond was still there, and, more especially, whether it still contained bass. So we went. It turned out to be a cattle-watering pond on a poorhouse farm near Philadelphia, and did it have bass! Ignoring the cows and the inmates that watched us, we caught an incredible number of largemouths from that small pond. It seemed as though they had been waiting for us, or, at any rate, someone, to come along and offer them a tasty plug or bass bug. The same litle body of water offered some of the choicest bluegill and crappie fishing I have ever encountered.

The inmates told us no one ever fished the pond. There were no rules against it, but they seemed too apathetic to bother with fishing, and no one else knew about it. Consequently, we had what every fisherman dreams of, virgin water, even if it wasn't large. Since it wasn't big, we had no need of heavy tackle and plied it with fly rod lures and small plugs. The largemouths took them on the surface—it was too shallow to make much use of sinking lures—with that heart-stopping, open-mouthed gulp that largemouths almost invariably use on top of the water. Their threshing about when hooked didn't seem to alarm their brothers at all.

Another time, also near Philadelphia, an angler—now dead—took me to his "secret" bass fishing spots. By tramping around, searching here and there, he had found places that were unknown to other fishermen, and that is practically a miracle around metropolitan Philadelphia.

One was possibly the strangest fishing grounds I ever saw. A casting club had built a concrete pool near the Delaware River for its plug and fly rod events. Something happened, the club was disbanded, the pool abandoned. It was a large pool, but some trees fell into it, the concrete walls cracked, and it looked like a dead body of water—until you cast into it with a lure. As many as four or five big largemouth bass would dart out of the shadows and chase the plug. We returned everyone caught because the man who "owned" it by right of discovery wouldn't have thought of keeping one of those bass — the afforded him too many hours of pleas ure. They were hungry, but nc starved. They lived on what food fe into the big pool, or on the insect lif of the water. I saw no food fish although there could have been some

I never met any bass under strange circumstances, although I have foun them in some odd places; but the chie things that I have been trying to ge at are these: The use of light tackl will open small streams and waters t bass fishing and be a sort of dividenc because there's good angling to b found in such often-ignored spots; and furthermore, careful hunting aroun will reveal many similar places in th most unexpected places. Finally, th persistence of bass in out-of-the-wa waters where one would never expec to find them indicate that they prob ably are Pennsylvania's best gam fish, capable of surviving and propa gating under difficult conditions.

Much as I like trout fishing, it is t a great extent artificial because o heavy stocking; but I know that an clean stream or lake in the state mos likely contains largemouths or small mouths, depending upon its bottom and that they are there naturally. Th State helps with some stocking, bu the bass have a greater will to liv as a species than the trout, and seem better able to take care of themselves

It doesn't matter much where yo go—the upper reaches of the Dela ware beloved of Zane Grey for bas fishing, the length of the Susquehann clear down to tidewater, the tribu taries to these streams, any old quarr hole that might once have bee stocked, the small ice pond, the littl creeks—black bass probably will b there. Treat them like gentlemer when you meet them, fight them lik gentlemen with fair weapons, and the will repay you by acting like the gentlemanly scrappers that they are.

ATTENTION FLY-BAIT CASTERS

Pennsylvania's Fishermen - Casters are cordially invited to participate in Fly and Bait (Distance and Accuracy) events at the 43rd NATIONAL CASTING TOURNAMENT, to be held in Washington, D. C., from August 15th to 19th, both dates inclusive. For further information, please contact Mrs. Ellen A. Dietrich, 1141 Roosevelt Drive, Upper Darby, Pa.

— TACKLE TIPS —

"TRY WHITTLING SOME PLUGS"

By Don Shiner

LUG and casting rod enthusiasts of today are offered an endless variety of lures. At time in angling history did the fishermen ve such a great amount of lures from hich to take their choice. They have a ance to pick one of hundreds of surface res which dance, wiggle, pop or gurgle. ey have an even greater selection of diving d deep running lures from which to pick a w. The variety seems so overly crowded at it is difficult to imagine new ones being lded to this already overflowing list, yet ore keep cropping up every year.

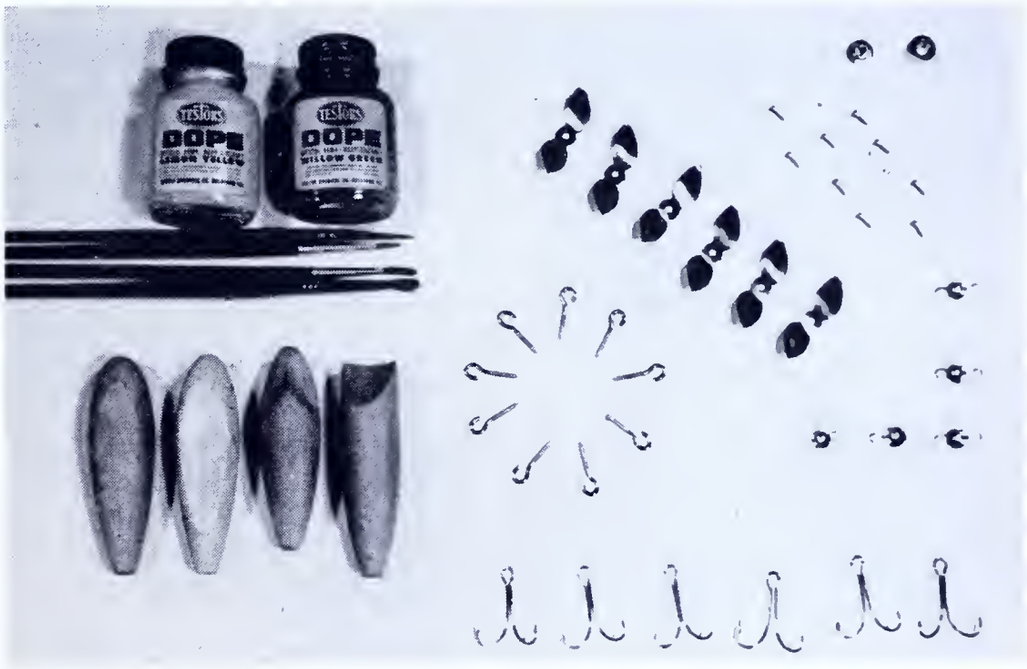
However, the plug enthusiast, like the fly er, eventually tries his hand at making a w lures. Often to his surprise the home-ade lures catch some extremely nice fish! ut this is no mystery. Game fish can not ll any difference between some home-made ugs and factory products. If they look like ub for their bellies, they'll nab them. esides, the first pattern of most professional res were hand made and tried out many mes before they were promoted as perfected res and sold to the fishing public.

But have *you* tried making a few plugs for ourself? It's fascinating! To whittle a body om a soft pine or cedar billet, attach some ardware and some hooks, and then dress it ith a coat of paint. It's a pastime that can row mighty interesting. There is always at challenge of designing a lure that will p all the commercially made lures. The st involved is almost nil and frequently ntails only the price of a set of double or eble hooks. If one of these lures is lost rough contact with an under water log or luster of weeds, the fisherman needs to orry little over the lost investment.

Making a plug begins with making a quare stick round. Carve a concaved face n the lure to provide the necessary action the water when it is retrieved, or cut a ace piece from a thin sheet of tin or luminum.

Then coat the body with several coats of aint, dobbing, stripping or ribbing it for effect. Paint sprayed through a small mesh screen will give a scaled appearance. Scale finishes can also be purchased in the form of decalcomanias. Finish the lure by adding the hardware and hooks.

A few minutes of spare time is all that is required to produce some of these lures of your own design. And when some fish are caught on these home-made lures, the fisherman will experience a new thrill in angling!



Some Fish Grow Horns!

The stoneroller minnows shown in this picture are not diseased or afflicted by parasites. They are normal adult males prepared for spring and the breeding season.

The sharp, pointed little horns occurring all over the head and body of the fish appear just before the breeding season and drop off soon after the season is ended.

Many other male minnows, among them chubs, fallfish, horned dace, and the common shiner, grow these horny tubercles for a short period some time in the spring. Accompanying these tubercles, much brighter colors—red, blue, orange, and yellow—appear and sometimes make the fish seem like different species.

Some of the chubs grow a "crest," or large, fleshy bump between the eyes and extending back to the nape of the neck, giving them a very unusual appearance.

The tubercles, incidentally, have a practical value, since they are used to drive away rival males during the mating period.

—Report by Edward F. Westlake, Jr., Ichthyologist of the Pennsylvania Fish Commission.

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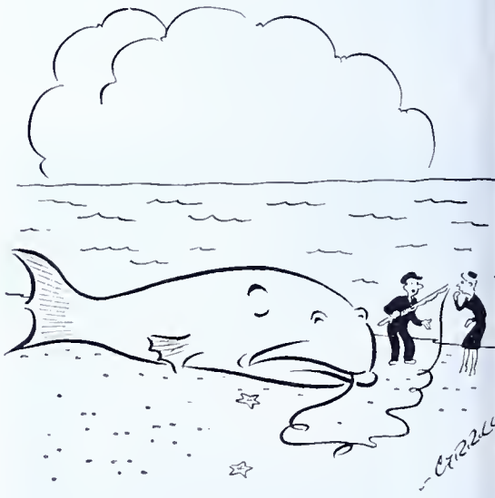
"Please junior, why don't you go out nights an play like other little boys, instead of alway working on quill gordons and royal coachmen?



"Dear, you run ahead to the apartment and dust off a few left-over recipes."

DOC HENSHALL AND THE BLACK BASS

(*From page* 21)

echniques, though often improved pon, have never been found wanting n wisdom.

Although the facts of Doc Henshall's ife and works are readily available, rank-and-file fishermen know little about him. He is still widely quoted, especially his "inch for inch and pound for pound" evaluation of the bass. Otherwise, like Walton, his contributions to the sport have eclipsed him as a personality.

But so long as men find sport in the quest for bass—which is to say, so long as men fish—the name of Doc Henshall will always occupy a revered place in the hearts of anglers.

Pennsylvania Fish Law Violations

Cases settled during the month of May

DAMS COUNTY

ndrews, Kenneth, West Broadway, Gettysburg, Pa. Fishing without a license ..... $ 25.00
hapman, Chester A., R. D. No. 2, Fairfield, Pa. Not having rod and line under immediate control 20.00
lotkoski, Betty J., Seven Stars, Pa. Violation of the rules and Regulations .. 20.00
lotkoski, Leonard S., Seven Stars, Pa. Violation of the rules and regulations 20.00

LLEGHENY COUNTY

osau, Walter, 220 Federal St., Pittsburgh, Pa. Two bass in closed season 20.00
ebrik, George, Box 72, Indianola, Pa. Fishing in a closed stream 25.00
avie, Merle E., Box 586, Imperial, Pa. Lending a fishing license 25.00
obies, Frank, 2530 "B" St., Liberty Boro, Pa. One bass in closed season 10.00
lasser, Philip, 711 Parkview Ave., N. Braddock, Pa. Lines not under immediate control 20.00
ohns, John H., 2130 Freeport Rd., Natrona Heights, Pa. Violation of the rules and regulations 20.00
anzle, Trefon, 226 Edmond St., Bloomfield, Pittsburgh, Pa. Violation of the rules and regulations 20.00
night, William, Wilkinsburg, Pa. One undersized trout 10.00
lantia, Walter V., 3309 Cambria St., Munhall, Pa. Violation of the rules and regulations 20.00
lengel, Howard, 9-A Sheldon Park, Tarentum, Pa. Violation of the rules and regulations 20.00
eich, Eli, No. 1 Royal St., Pittsburgh, Pa. Fishing without a license 25.00
Veidenhoff, James, R. D. No. 2, Box 87, Tarentum, Pa. Violation of the rules and regulations 20.00

RMSTRONG COUNTY

oy, Edward, R. D. No. 1, Adrian, Pa. Fishing without a license 25.00

EAVER COUNTY

ampbell, Arthur, 220 Bridge St., W. Bridgewater, Pa. Violation of the rules and regulations 20.00
ollins, Carl, 1424 Market St., W. Bridgewater, Pa. Violation of the rules and regulations 20.00
ollins, Larry, 1424 Market St., W. Bridgewater, Pa. Violation of the rules and regulations 20.00
apolski, George, 1441 Greene St., Aliquippa, Pa. One bass in closed season 10.00
upanic, Frank Jr., 799 14th St., Ambridge, Pa. Violation of the rules and regulations 20.00

EDFORD COUNTY

atshaw, Abraham C., New Paris, Pa. Violation of the rules and regulations 20.00

ERKS COUNTY

spenshade, Harry, R. D. No. 1, Robesonia, Pa. One bass in closed season 20.00
artman, Thomas, Strausstown, Pa. Illegal device 20.00
antner, George M., Rehrersburg, Pa. One bass in closed season 10.00
ramer, George, Reading, Pa. Illegal device 20.00
ramer, John, 411 Clark Ave., Reading, Pa. One bass in closed season 10.00
artin, Wm. R., 100 High St., Penndale, Reading, Pa. Violation of the rules and regulations 20.00
Williamson, Evelyn, 318 W. Greenwich St., Reading, Pa. Violation of the rules and regulations 20.00

BLAIR COUNTY

Carl, Lewis J., 318 S. Juniata St., Hollidaysburg, Pa. Fishing on private land without permission of landowner 25.00
Teeter, John A., 1145 5th Ave., Duncansville, Pa. Illegal operation of motorboat 10.00
Varner, Clark A., 410 9th St., Altoona, Pa. Exceeding creel limit 60.00

BRADFORD COUNTY

Biles, Gerald T., 410 First St., Athens, Pa. Two undersized trout 20.00
Taliferro, Charles E., New Albany, Pa. One bass in closed season 10.00

BUCKS COUNTY

Baran, John, Ferry Rd., Morrisville, Pa. Fishing without a license 25.00

BUTLER COUNTY

Breth, Ray, 1015 W. Penn St., Butler, Pa. Illegal device 20.00
Maltaglati, Rene, 115 Short St., Butler, Pa. Fishing in a closed stream 25.00
Marberger, Carl W., R. D. 2, Evans Sity, Pa. Violation of the rules and regulations 20.00

CAMBRIA COUNTY

Bovine, Pete, 406 Oak St., Johnstown, Pa. Violation of the rules and regulations 20.00
Gates, Harold R., McConaugh St., Johnstown, Pa. Fishing on hatchery premises 100.00
Krieger, Bernard, 313 Crystal St., Johnstown, Pa. Violation of the rules and regulations 20.00
Kelly, James, Gallitzin, Pa. Violation of the rules and regulations 20.00
Margroum, Robert E., 211 Cooper Ave., Johnstown, Pa. Fishing on hatchery premises 100.00
Prescott, Paul J., Portage, Pa. Violation of the rules and regulations 20.00
Zak, John, 333 Main St., Conemaugh, Johnstown, Pa. Violation of the rules and regulations 20.00

CENTRE COUNTY

Homan, Frank O., R. D., State College, Pa. Exceeding creel limit 20.00
Horner, Robert H., Boalsburg, Pa. One undersized trout 10.00

CLARION COUNTY

Neiswonger, Wm., Strattanville, Pa. Illegal operation of motorboat 10.00

CLEARFIELD COUNTY

Colinski, John A., Tyler, Pa. Two undersized trout 20.00
Hawkins, Richard M., Box 275, Madera, Pa. One undersized trout 10.00
Owans, Robert H., Shawville, Pa. Three undersized trout 30.00
Thomas, Walter, R. D. No. 4, Clearfield, Pa. Five undersized trout 50.00

CLINTON COUNTY

Berry, Nick F., Renovo, Pa. Violation of the rules and regulations 20.00
Blush, Kenneth A., 507 E. Church St., Lock Haven, Pa. Illegal operation of motor boat 10.00
Bubb, Mrs. Kathleen, 304 N. Henderson St., Lock Haven, Pa. Violation of the rules and regulations 20.00
Shoemaker, Harold E., Star Route, Lock Haven, Pa. One undersized trout 10.00

COLUMBIA COUNTY

Lohr, Norman, 594 W. 3rd St., Bloomsburg, Pa. Fishing on Sunday without permission of landowner 25.00
McAfee, Eugene, 1403 Pine St., Berwick, Pa. Two bass in closed season 20.00
Troutman, Wm., R. D. No. 1, Bloomsburg, Pa. Two bass in closed season .. 20.00

DAUPHIN COUNTY

Baldwin, Charles, Hummelstown, Pa. Violation of the rules and regulations 20.00
Brown, Margaret, Harrisburg, Pa. Violation of the rules and regulations 20.00
Deibler, James R., Steelton, Pa. Violation of the rules and regulations .. 20.00
Forney, Roy C., Hanover St., Union Deposit, Pa. Violation of the rules and regulations 20.00
Garisto, S. J., Harrisburg, Pa. Violation of the rules and regulations 20.00
Logan, Walter E., 24 S. Railroad St., Hummelstown, Pa. Fishing in Slate Run with barbed hook 20.00
Martin, Stanley M. Jr., Harrisburg, Pa. Violation of the rules and regulations 20.00
McAntee, James, 1052 S. 9th St., Harrisburg, Pa. Violation of the rules and regulations 20.00
Peckey, Gale C., Middletown, Pa. Violation of the rules and regulations 20.00
Rodger, Robert, 1056 S. 9th St., Harrisburg, Pa. Violation of the rules and regulations 20.00
Urich, Boyd, 220 N. 2nd St., Halifax, Pa. Fishing Slate Run with barbed hook 20.00
Zebell, Wm. C., Oberlin, Pa. Violation of the rules and regulations 20.00

DELAWARE COUNTY

Atkins, John W., Chadds Ford, Pa. Violation of the rules and regulations .. 20.00
Aurillo, Anthony, 514 Main St., Darby, Pa. Violation of the rules and regulations 20.00
Cole, Frank, 238 E. Roland St., Parkside, Pa. Violation of the rules and regulations 20.00
Cole, Gerald R., 226 W. 5th St., Chester, Pa. Violation of the rules and regulations 20.00
Larkin, Robert E., Naaman Creek Rd., Ogden, Pa. Violation of the rules and regulations 20.00
Stafford, Frank, 2503 Providence Ave., Chester, Pa. Violation of the rules and regulations 20.00

ELK COUNTY

Dippold, E. F., 646 Theresa St., St. Marys, Pa. Two undersized trout 20.00

ERIE COUNTY

Artello, Arlene, R. D. No. 2, Albion, Pa. Violation of the rules and regulations 20.00
Flaherty, Arthur, 454 E. 19th St., Erie, Pa. Illegal device 25.00
House, Ernest, 437 E. 18th St., Erie, Pa. Fishing without a license 25.00
House, Eva, 437 E. 18th St., Erie, Pa. Fishing without a license 25.00
Taylor, Glenn, R. D. No. 2, Albion, Pa. Violation of the rules and regulations 20.00

FRANKLIN COUNTY

Bailey, Clarence J., R. D. No. 2, Fayetteville, Pa. Violation of the rules and regulations 20.00
Cormany, Floyd, R. D. No. 2, Chambersburg, Pa. Illegal device 20.00
Holderman, Thomas A., Lincoln Hotel, Chambersburg, Pa. Illegal device 20.00
Rosenberry, Albert M., Roxbury, Pa. Illegal device 20.00
Suders, Harry M., Chambersburg, Pa. Exceeding creel limit 10.00
Wagaman, Lloyd, R. D. No. 2, Fayetteville, Pa. Violation of the rules and regulations 20.00

HUNTINGDON COUNTY

Bullett, Paul, Gen. Del. 1st St., Huntingdon, Pa. Illegal device 20.00
Martin, Wm., 1708 Washington St., Huntingdon, Pa. Three bass in closed season 30.00
Newingham, Thomas, 748 Allegheny St., Huntingdon, Pa. Fishing without a license 25.00

INDIANA COUNTY

Griffith, Neil R., Box 37, Plumville, Pa. One undersized trout 10.00
Kopczyk, Stanley W., Clymer, Pa. Anchoring minnows in stream without name plate 20.00
Muller, Paul V., 544 Clark St., Indiana, Pa. One bass in closed season 20.00
Ruby, Jess, R. D. No. 1, Barnesboro, Pa. Violation of the rules and regulations 20.00
Smith, Ben C., Box 343, Clymer, Pa. Exceeding creel limit 20.00
Trainer, John, 333 Walnut St., Indiana, Pa. Fishing in a closed stream 25.00

JEFFERSON COUNTY

Ramey, Henry J., Box 311, Brookville, Pa. Violation of the rules and regulations 20.00
Ramey, Leroy, Box 311, Brookville, Pa. Violation of the rules and regulations 20.00
Reitz, Donald L., Box 144, Summerville, Pa. Illegal operation of motorboat .. 10.00

LACKAWANNA COUNTY

Kobeski, Joseph, 3600 Laurel St., Moosic, Pa. Exceeding creel limit 10.00
Perry, Wesley, 2517 Shawnee Ave., Scranton, Pa. Nine undersized trout 90.00
Sobriski, Francis, 1106 S. Irving Ave., Scranton, Pa. Exceeding creel limit .. 10.00

LANCASTER COUNTY

Diffenbaugh, C. F., 1062 Columbia Ave., Lancaster, Pa. Illegal operation of motorboat 5.00
Duffy, Oscar, R. D. No. 4, Lancaster, Pa. Violation of the rules and regulations 20.00
Lendenbergerm, Harry, 930 Spruce St., Columbia, Pa. One undersized trout 10.00
Nolt, Elaim, Gordonville, Pa. Illegal device 20.00
Nolt, Mrs. Elva, Gordonville, Pa. Violation of the rules and regulations 20.00
Peacock, Melvin, 217 Howard Ave., Lancaster, Pa. Violation of the rules and regulations 20.00
Weidman, Richard E., R. D. No. 1, Manheim, Pa. Violation of the rules and regulations 20.00

LAWRENCE COUNTY

Elliott, Thomas, R. D. No. 3, Chapin Rd., New Castle, Pa. Illegal operation of motorboat 25.00
Frazier, Robert V., 217 N. Market St., N. Wilmington, Pa. Fishing without a license 25.00
Fugus, Michael, 1030 Court St., New Castle, Pa. Exceeding creel limit 10.00
Pilner, George R., R. D. No. 6, New Castle, Pa. Exceeding creel limit 10.00
Sholler, Frank D., 114 N. Walnut St., New Castle, Pa. Violation of the rules and regulations 20.00
Suzow, Paul P., 1506 Wilson Ave., New Castle, Pa. Violation of the rules and regulations 20.00

LEBANON COUNTY

Strickler, Ray L., Elizabethtown, Pa. Violation of rules and regulations .. 20.00
Strickler, Ray L., Elizabethtown, Pa. Fishing without a license 25.00

LEHIGH COUNTY

Derr, Annabelle E., R. D. No. 1, Orefield, Pa. Fishing without a license 25.00
Ferrara, Frank J., R. D. No. 1, Emmaus, Pa. Fishing without a license 25.00

LUZERNE COUNTY

Brennan, Wm. J., 76 Main St., Kingston, Pa. Exceeding creel limit 10.00
Helferty, Daniel P., 202 W. Green St., Hazleton, Pa. Loaning a fishing license 25.00
Hildebrand, Emanuel G., Clearview Ave., Trucksville, Pa. Fishing on private land without permission of landowner 25.00
Romanczuk, Leonard M., 130 Lackawanna Ave., Dupont, Pa. Fishing without a license 25.00
Stout, Wm. L., 602 Montgomery St., W. Pittston, Pa. Exceeding creel limit .. 20.00
Wasilaukas, Kazimer, 12 Johnson St., Pittston, Pa. Exceeding creel limit .. 10.00
Wirsing, Edward G., Box 50, Sybertsville, Pa. Fishing without a license 25.00

LYCOMING COUNTY

Bailey, Cecil W., R. D. No. 1, Montgomery, Pa. Fishing in a closed stream 25.00
Eberts, Lester H., 2460 W. South Ave., S. Williamsport, Pa. One undersized trout 10.00
Ekblom, Ero, 1201 E. 3rd St., Williamsport, Pa. Fishing in a closed stream 25.00
Eshbach, James G., 465 William St., Williamsport, Pa. Fishing in a closed stream 25.00
Gore, George L., 315 1st Ave., Williamsport, Pa. Fishing in a closed stream 25.00
Smith, Ralph R., 1307 Elmira St., Williamsport, Pa. Fishing in a closed stream 25.00

McKEAN COUNTY

Allen, Fren T., 90 Winter St., Bradford, Pa. Fishing on the Bradford water shed without permission on Sunday 25.00
Baker, Wayne P., 6 S. Center St., Bradford, Pa. Eight undersized trout 80.00
Battles, Raymond L., 3 Burnside Ave., Bradford, Pa. Violation of the rules and regulations 20.00
Bostaph, Robert V., 211 Jamesway St., Kane, Pa. One undersized trout 10.00
Carlson, Frank W., 23 Davis St., Bradford, Pa. Exceeding creel limit 10.00
Fairbanks, Floyd E., 223 Jackson Ave., Bradford, Pa. One undersized trout .. 10.00
Kahle, Earl F., Duke Center, Pa. One undersized trout 10.00
Larson, Stuart L., 294 E. Main St., Bradford, Pa. One undersized trout 10.00
Redington, Melvin B., 9 Seaward Ave., Bradford, Pa. Two undersized trout .. 20.00
Sewell, Wm. Jr., Box 22, Wrights, Pa. Five undersized trout 50.00
Zempogna, Frederick A., 101 Kearney St., Kane, Pa. One undersized trout 10.00

MERCER COUNTY

Shaw, Howard G., 310 Wilson Ave., Sharon, Pa. Violation of the rules and regulations 20.00
Sherman, James, R. D. No. 2, Sharpsville, Pa. Violation of the rules and regulations 20.00
Steingrabe, Charles, R. D. No. 6, Mercer, Pa. Fishing without a license 25.00

MIFFLIN COUNTY

White, Thomas, Cedar Crest, Mt. Union, Pa. Eight undersized trout 80.00

MONTGOMERY COUNTY

Carter, Bernard S., 614 Walnut St., Pottstown, Pa. Fishing without a license 25.00
Carter, Edward, 614 Walnut St., Pottstown, Pa. Fishing without a license .. 25.00
Carter, James L., 614 Walnut St., Pottstown, Pa. Fishing without a license .. 25.00
Markoski, Edward, 2 Church Rd., Norristown, Pa. Exceeding creel limit 10.00

MONTOUR COUNTY

Miller, Harry J., 612 Front St., Danville, Pa. Violation of the rules and regulations 20.00

NORTHAMPTON COUNTY

Boyer, Kenneth L., 903 Linden St., Bethlehem, Pa. Violation of the rules and regulations 20.00
Boyer, Nelson, 903 Linden St., Bethlehem, Pa. Violation of the rules and regulations 20.00
Hoskins, Kenneth, R. D. 3, Nazareth, Pa. Violation of the rules and regulations 20.00
Hoskins, Wm., 8022 Pine Rd., Philadelphia 11, Pa. Violation of the rules and regulations 20.00
Pastelyak, Steve, 1514 E. 5th St., Bethlehem, Pa. Fishing without a license 25.00

NORTHUMBERLAND COUNTY

Bressi, Vincent, 250 S. Pearl St., Shamokin, Pa. Lines not under immediate control 20.00
Fogle, Alfred E., 527 Duke St., Northumberland, Pa. Violation of the rules and regulations 20.00
Gagline, Joe M., 920 Susquehanna Ave., Sunbury, Pa. Illegal operation of motorboat 10.00
Malone, Albert, 1301 W. Montgomery St., Shamokin, Pa. Violation of the rules and regulations 20.00
Mertz, Robert K., R. D. No. 1, Northumberland, Pa. Fishing during closed season 25.00
Vallo, Edward, 1050 Chestnut St., Kulpmont, Pa. Line not under immediate control 20.00

PHILADELPHIA COUNTY

Baj. John E., 3628 Edgemont St., Philadelphia, Pa. Fishing without a license 25.00
Dohling, Henry E., 1410 Cadwalader St., Philadelphia, Pa. Fishing without a license 25.00
Gaffney, Wm., 2841 E. Elkhart St., Philadelphia, Pa. Fishing without a license 25.00
Graham, John M., 3276 Tilton St., Philadelphia, Pa. Fishing without a license 25.00
Heilig, Frank, 7924 Laycock Ave., Philadelphia, Pa. Violation of the rules and regulations 20.00
Jackson, Fred., 1523 Christian St., Philadelphia, Pa. Violation of the rules and regulations 20.00
Lippincott, Albert J. Jr., 4453 Richmond St., Philadelphia, Pa. Fishing without a license 25.00
Minko, Andrew W., 2070 Venango St., Philadelphia, Pa. Fishing without a license 25.00
Paluszynski, Matthew S., 2526 E. Tilton St., Philadelphia, Pa. Fishing without a license 25.00
Vodopya, Andrew S., 2503 E. York St., Philadelphia, Pa. Fishing without a license 25.00

POTTER COUNTY

Bradish, Ronald A., 207 Chestnut St., Coudersport, Pa. One undersized trout 10.00
DeLill, Clayton P., Box 221, Roulette, Pa. Fishing without a license 25.00
Dugan, Richard D., Roulette, Pa. Fishing without a license 25.0
Shaw, Rathbun L., 409 Park Ave., Coudersport, Pa. Exceeding creel limit 10.0

SCHUYLKILL COUNTY

Cump, Andrew, 5th St., Minersville, Pa. Fishing without permission of landowner 25.0
Valitsky, Severin, 212 E. High St., Coaldale, Pa. One undersized trout 10.0
Whitecavage, Vincent P., Walnut St., Middleport, Pa. Refused to show his license 25.0

SNYDER COUNTY

Kepner, Wm., R. D. No. 1, Beaver Springs, Pa. Illegal device 20.0

SOMERSET COUNTY

Lambert, Phillip, Holsopple, Pa. Violation of the rules and regulations 20.0

TIOGA COUNTY

Gail, Carl L., Tioga, Pa. One undersized trout 10.0
Lovett, Walter, Middlebury Center, Pa. One undersized trout 10.0

UNION COUNTY

Coryell, Chas. Franklin, 812 Market St., Lewisburg, Pa. Fishing in closed stream 25.0
Dunkle, John W., 535 Market St., Lewisburg, Pa. Illegal operation of motorboat 10.0
Sheltman, W. S., West Milton, Pa. Illegal operation of motorboat 15.0
Waller, George E., New Columbia, Pa. Illegal operation of motorboat 10.0

VENANGO COUNTY

Dalmaso, Reno, Franklin, Pa. Illegal operation of motorboat 5.0

WARREN COUNTY

Carpenter, Hubert R., Kinzua, Pa. Two undersized trout 20.0
Clepper, Harry M., 200 McPherson St., Warren, Pa. Three undersized trout .. 30.0
Libbey, Clayton E., Kinzua, Pa. One undersized trout 10.0
Mohney, Lance N., Kinzua, Pa. One undersized trout 10.0
Shaffer, Walter R., R. D. No. 1, Corydon, Pa. Two undersized trout 20.0
Thomas, Samuel A., Clarendon, Pa. One undersized trout 10.0

WASHINGTON COUNTY

Pratton, Jim, 908 Chartiers St., Washington, Pa. Fishing without a license 25.0

WESTMORELAND COUNTY

Bernat, John, 226 Railroad St., E. Vandergrift, Pa. Violation of the rules and regulations 20.0
Frescura, Leonard, Box 199, Renton, Pa. Fishing in a closed stream 25.0
Jefferson, Wilson, 1215 3rd Ave., New Kensington, Pa. Fishing in a closed stream 25.0
Karrs, Stanley, 925 2nd Ave., New Kensington, Pa. Fishing in a closed stream 25.0
Olar, Pete, 1216 3rd Ave., Arnold, Pa. Fishing in a closed stream 25.0

YORK COUNTY

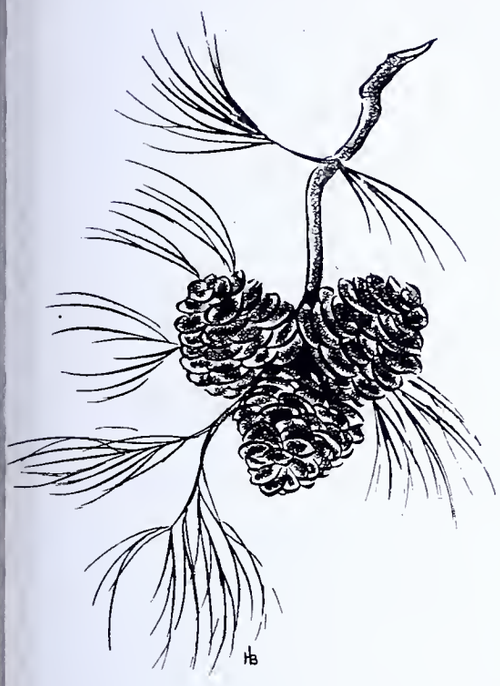
Ely, James H., 612 Ridge Ave., York, Pa. Illegal operation of motorboat .. 5.0
Little, W. R., York Haven, Pa. Illegal operation of motorboat 10.0

OUT OF STATE

Jones, Ray, R. D. No. 3, Pedmont, Alabama. Fishing without a license 25.0
McCue, James, Box 1375, Plant City, Florida. Fishing without a license .. 25.0
Balcavage, Marguerite, Nice, France. Fishing without a license 25.0
Baker, Harry H., Box 181, Cotton Valley, Louisiana. Fishing without a license 25.0
Haslego, Frank, 2820 Trumbell Ave., Detroit, Michigan. Fishing without a license 25.0
Ruth, Harry S., York St., Burlington, N. J. Fishing without a license 25.00
Arnone, Philip S., 16 Chestnut St., Buffalo, N. Y. Fishing without a license 25.0
Deans, Robert S., 24 Gramecy Place, Rochell, N. Y. Fishing without a license 25.0
DeGrenring, Walter C., 30 Lancaster Ave., Baldwin, Long Island, N. Y. Loaning a fishing license 25.00
Hurd, Harry E., 219 Conhocton St., Corning, N. Y. Fishing without a license 25.00
Nyitary, Alex G., 1094 Bryant Ave., Bronx, N. Y. Fishing without a license 25.00
Russ, Lawrence, R. D. 1, Kennedy, N. Y. Gave false information to secure a fishing license 25.00
Symonds, George, 456 E. Clinton St., Elmira, N. Y. Exceeding creel limit .. 10.00

VACATION PAGE +

By CARSTEN AHRENS



Our National Park System

SCATTERED about these United States, from Maine to California and from Washington to Florida, are scores of National Parks and Monuments. These areas contain "Scenery of supreme and distinct quality, or some natural feature so extraordinary or unique as to be of national interest and importance."

Every American boy or girl should know some of these sanctuaries. And it isn't necessary to be a milionaire to visit them. There are free camp grounds in all of the National Parks and in many of the Monuments. There are adequate toilet facilities, running water, and fireplaces. Hundreds of thousands of visitors camp in one or another of these wonderlands every year.

About 1% of all lands in and owned by the United States has been set aside for National Parks and Monuments. These areas are withdrawn *"for the enjoyment, education, and inspiration of all the people for all time."* In these sites no lumbering, mining, hunting, trapping, or water power development is permitted. Here is a list of our National Parks with their location and date of establishment:

Arcadia, Maine	1919
Big Bend, Texas	1944
Bryce Canyon, Utah	1928
Carlsbad Caverns, New Mexico	1930
Crater Lake, Oregon	1902
Everglades, Florida	1947
Glacier, Montana	1910
Grand Canyon, Arizona	1919
Grand Tetons, Wyoming	1929
Great Smoky Mountains, Tennessee and North Carolina	1940
Hawaii, Hawaii	1916
Isle Royale, Michigan	1940
Mt. Lassen, California	1916
Mammoth Cave, Kentucky	1941
Mesa Verde, Colorado	1906
Mt. McKinley, Alaska	1907
Mt. Rainier, Washington	1899
Olympic, Washington	1938
Rocky Mountain, Colorado	1915
Sequoia-Kings Canyon, California	1890-1940
Shenandoah, Virginia	1935
Wind Cave, South Dakota	1903
Yellowstone, Wyoming	1872
Yosemite, California	1890
Zion, Utah	1919

Our Monuments

In 1907 the Devil's Tower in Wyoming was set aside as a National Monument, and since that time many others have been established. The National Monuments are usually smaller areas than National Parks. They are not established especially for scenery, but there is always something that is of natural or of historic importance that makes them worth while seeing. The same rules of conservation govern the Parks and Monuments.

How It Started

Away back in 1870, an expedition was sent out to the then unknown area of northwestern Wyoming to investigate the "wild tales" of geysers, hot springs, and other natural wonders of that region.

The members of that expedition were amazed at their findings. One night while they were sitting about their camp fire, some one suggested that the members of the party should arrange to claim the land around the various points of interest in order to make money from the tourists who would most surely be attracted to the region once transportation was available.

One member, Cornelius Hedges, had another suggestion: Why not make this tremendous area a national park? Gradually he won most of the others over to his idea. It took longer to sell Congress on the plan, but in 1872 the first of Our National Parks was established.

MATCH QUIZ

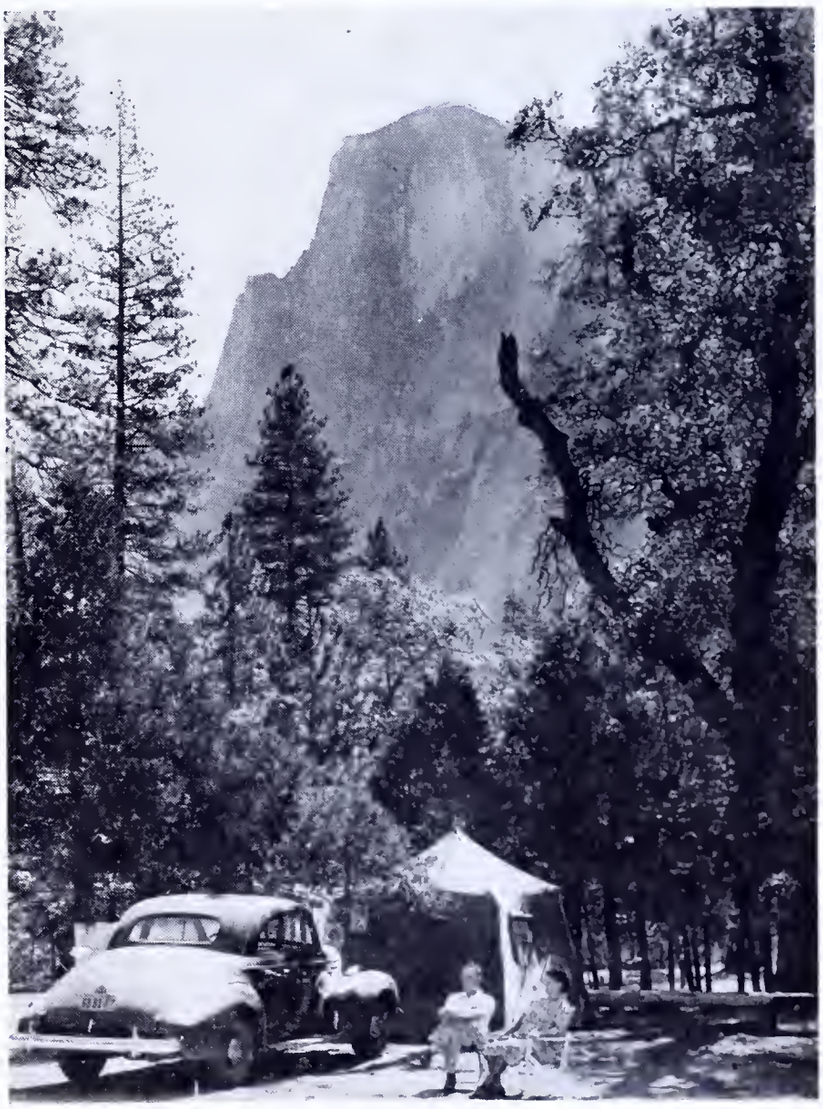
1.——Yosemite	A. Eyeless fish
2.——Sequoia	B. Cliff Dwellings
3.——Grand Canyon	C. The Big Trees
4.——Hawaii	D. Greatest Example of Water Erosion
5.——Mammoth Cave	E. Huge Colony of Bats
6.——Yellowstone	F. Volcanic Activity
7.——Mesa Verde	G. Dall Sheep
8.——Carlsbad Caverns	H. High Waterfalls
9.——Mt. McKinley	I. Snowy Egrets
10.——Everglades	J. Geysers

ANSWERS (Up side down): 1-H, 2-C, 3-D, 4-F, 5-A, 6-J, 7-B, 8-E, 9-G, 10-I

CHUCK, the Warden, says:

I have read frequently during the last few years of the increasing amount of vandalism occurring in our National Parks and Monuments. This is difficult to understand. Since every citizen is part owner of these areas, then to wantonly destroy something that is his seems like cutting off one's nose to spite one's face. If a larger ranger force is necessary for policing, then it should speedily be secured.

A single giant red wood tree might be badly mutilated in a few hours; it would take 4,000 years to replace!



Camping under the shadow of Half Dome, Yosemite National Park

PENNSYLVANIA Angler

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THE

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The Cover . . . Lush is August with grasses, weeds and underwater life. Streams and lakes are working. The pond lilies, gorgeous on their wiry stems scent the sumer air with a wonderful perfume. The leaves of the lily are fine, natural aerodromes for the damsel flies.

—Photo by Don Shiner

George W. Forrest, Editor 1339 East Philadelphia Street, York, Pa.

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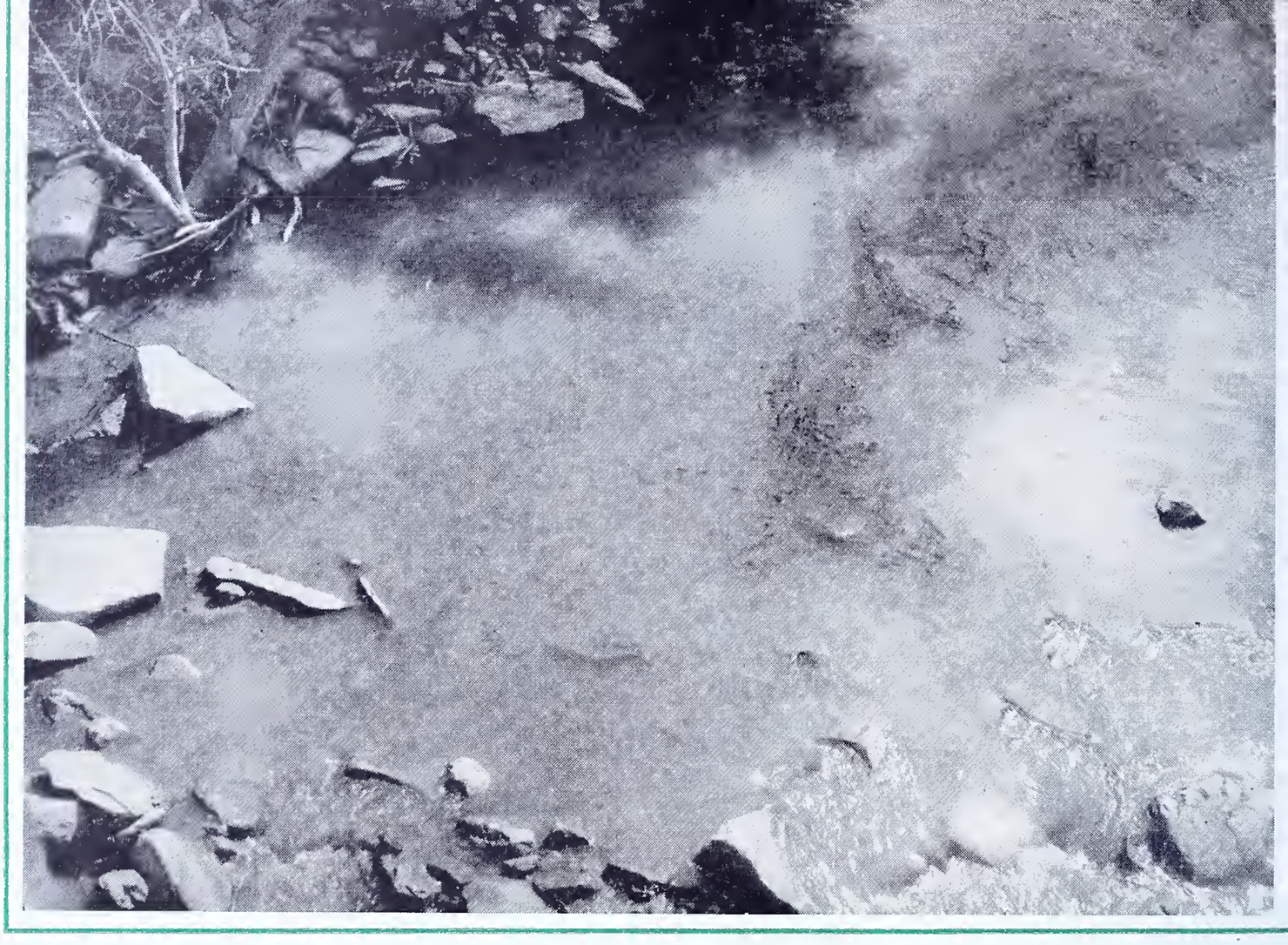

CLEAN STREAMS *Will Not Bring* UTOPIA

By RUSSELL E. TEAGUE, M.D.

Secretary
Pennsylvania Department of Health

Chairman
Sanitary Water Board

WHEN William Penn arrived in Philadelphia in 1682 to take over administration of the city and province he had established in the New World, he carefully took stock of such items as "soil, air, water, seasons and produce." What he found suited him well, including the water supply. "The waters are generally good," he noted, "for the rivers and brooks have mostly gravel and stony bottoms; and in number, hardly credible."

Farther on in his precise report to the Committee of the Free Society of Traders of the Province of Pennsylvania, Penn mentioned many of the rivers and creeks by name, adding, "Our people are mostly settled on the upper rivers; which are pleasant and sweet, . . ."

To have "pleasant and sweet" rivers and streams everywhere today would be Utopia for the fisherman, and when he makes off with rod and line he may even utter a prayer that they return, but back in "civilian life" he would concede that he would not want that prayer to be answered. Penn's description applied to waterways in a virgin land. Few of the rivers and streams in a State which has a population of ten and a half million people, and one which has grown to be an industrial colossus, can retain the qualities they had when they served only fish and the beasts of the forests.

However, the utter disregard we showed, on our road of progress, for the water in the rivers and streams, which makes progress and development possible, stands glaringly as an example of the low estate in which we hold things which are readily available and therefore, taken for granted. After long and strenuous crusading on the part of sportsmen's and conservationist's organizations for action against wanton pollution of the streams, we were finally jolted out of our unmoral attitude and brought to the fearsome realization that we are actually running out of clean water.

Fortunately there is now universal recognition that clean water in the public waterways is vital to health, necessary for economic existence and development and is a public heritage for recreation and fishing, and that unless the water we befoul through use is treated before it is returned to the streams so it can be used over and over again, we may experience some of the tragedies of parched areas.

These things brought into being the Clean Streams program, directed by the Sanitary Water Board, and executed by the Bureau of Sanitary Engineering of the Pennsylvania Department of Health.

The fact that Pennsylvania is now recognized as being in the forefront among the States in bringing back clean streams must be a source of pride and of deep satisfaction to every Pennsylvanian and particularly to those who so ardently advocated the necessity of anti-pollution measures when the response was mostly a charge of selfishness, a desire only for places to fish.

Progress in cleaning up the streams, under the Clean Streams program, has come a long way. The rehabilitation job already accomplished on the Schuylkill River and its tributaries has won renown as the most outstanding anti-pollution job ever performed anywhere. Pollution by silt from collieries along that river, and from all other collieries excepting three in the entire anthracite field, has been stopped. (The three collieries will have desilting systems in operation later this year). Municipalities along the Schuylkill from Reading to Philadelphia are rebuilding their sewage treatment plants to increase the degree of treatment of the sewage and of the wastes from many industrial establishments which discharge their wastes to the sewerage systems. Other factories and mills have constructed and still others are constructing waste treatment facilities. Philadelphia is heading toward the three quarter mark of completion of its sanitary cleanup program which calls for an expenditure of $60 million.

Municipalities and industrial establishments throughout the State have built or are building treatment facilities involving expenditures estimated at nearly $100 million—equally divided between public treatment works and those at institutions, and industry.

There are however two important factors involved in stream pollution which must be accepted as inevitable. The first of these is that accomplishments under the Clean Streams program must not be expected to go beyond the legal definition of pollution which "shall be construed to mean noxious and deleterious substances rendering unclean the waters of the Commonwealth to the extent of being harmful or inimical to the public health, or to animal or aquatic life, or to the use of such waters for domestic water supply, or industrial purposes, or for recreation." It must be accepted that the streams are the only means by which wastes can be carried away —that there is no method of preventing wastes except to go back to the days of William Penn—and that effluents from sewage treatment works and from waste treatment systems at factories and mills must go to the streams, and that even when "complete" treatment is attained some substances remain in the effluent, but not in amount

(*Turn to Page 30*)

←

A cheap but dangerous method of disposing of sewage. This municipality is now building a sewage treatment works.

Discharging untreated industrial waste into streams is being stopped under Pennsylvania's Clean Streams Program.

THE PYMATUNING LABORATORY

OF THE

University of Pittsburgh

By C. A. TRYON, JR.
Assistant Director

Two of the 1/100 acre quadrants designed to show the effect of carp on the aquatic vegetation.

Aerial view of the Linesville causeway. Ponds and buildings of the Pennsylvania Fish Commission's Linesville Hatchery can be seen in foreground. Beyond lies wooded point leased to Univ. of Pittsburgh.

DURING the past two years visitors to famed Pymatuning Lake have noticed among the scenic attractions of that area a group of young men and women engaged in quite a variety of pursuits, ranging from the extraction of carp stomachs to scooping up the muck from the bottom of the lake, from measuring the penetration of light through the water to centrifuging water samples to obtain microscopic animals and plants.

This has been caused by the shifting, in 1949, of the center of field work for the University of Pittsburgh from Presque Isle to Pymatuning. This change in locality was made necessary by the decision to develop and expand this phase of the University's activities in light of the obvious need for better understanding and interpretation of life under natural conditions. The Pymatuning area offers an excellent field for experimental investigation of this problem and of problems underlying the effective management of our native plants and animals. This is largely due to the chain of events which has resulted in the proximity of the largest lake in Pennsylvania in an extensive swamp, a tremendous fish hatchery, a wildlife refuge and waterfowl museum and excellent upland habitats of woodlands and fields.

Through the very generous and whole-hearted cooperation of the various state agencies concerned, a beautiful site, adjacent to the fish hatchery and museum has been allotted to the University for the erection of suitable buildings. In the accompanying air photo this site may be located on the point of land lying just beyond the fish nursery in the foreground.

Students loading one of the laboratory boats preparatory to taking water samples.

The work of the station is carried on throughout the year although the majority of the students are present only during the summer months of June, July, and August. During the summer of 1950 more than forty students were in attendance. About half of them were graduate students from the staffs of colleges and secondary schools, the remainder were full-time students, both graduate and undergraduate, from the University of Pittsburgh. The courses offered were concerned with studies of the plant and animal life of the region; the bulk of the work was carried on in the field but this was adequately supplemented with laboratory work through facilities made available by the Linesville School Board. (Those desiring more detailed information on the academic aspects of the Laboratory may receive a bulletin by writing to Dr. Robert F. Griggs, Director, Pymatuning Laboratory, Dept. of Biological Sciences, University of Pittsburgh, Pittsburgh 13, Pennsylvania.)

A special effort is also being made to provide better training in nature study and the scientific background of conservation methods; this curriculum is designed especially for the teachers in biology in secondary schools.

It has been demonstrated many times that such an educational effort as outlined above can only be kept alive and active through integration with a vigorous research program. The research effort at the Pymatuning Laboratory receives equal emphasis with the teaching program. Working as a team, the staff and students of the station approach all their work, not as cut-and-dried lessons to be learned, but as a series of problems to be investigated and solved.

The technical research projects of the Laboratory are carried on by the staff and graduate students working toward advanced degrees. The major project is concerned with the productivity of the lake. Presenting as it does a notable profusion of many forms of life, the obvious and intriguing problem is why it is so productive. While the original purpose of the lake was primarily that of flood control and the maintenance of a sufficient flow of water in the Shenango River for industrial use, recreational use of the lake has increased to the point where this role is fully as important as the others. As much of the recreational value is dependent upon the really remarkable amount of fishing produced, this investigation of the productivity of the lake becomes of very real and practical importance.

In its progressive support of this latter aspect of the research program, the Pensylvania Fish Commission has been most helpful. Some of the projects that may be of interest to the anglers of the state are concerned with the growth and numbers of game fish, especially the walleyed pike, the kinds and numbers of food organisms, the physical and chemical factors of the lake, the composition of the bottom soils and the growth of aquatic vegetation. Essentially, what we are trying to do is to trace the elaboration of life from the nutritive materials washed into the lake by the inflowing waters to the final production of fish. The Laboratory can attack such a problem in much more detailed fashion than would be economically feasible for the Fish Commission although the results may be very pertinent to their creation of better fishing.

While none of these projects are in any sense complete, some of the results are of interest. In sampling the plankton populations

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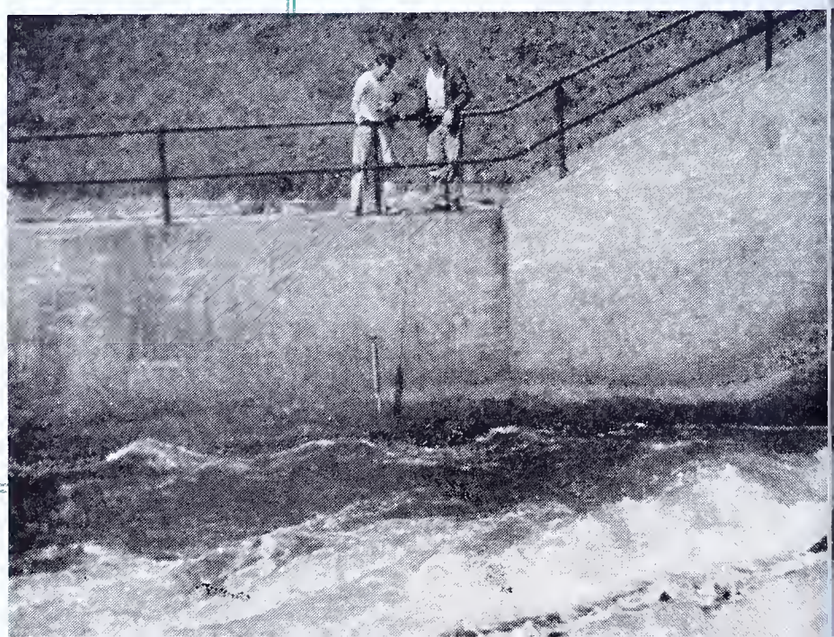
← Students taking plankton samples under the Espyville causeway.

↓ Using the water sampler in the outlet raceway of the Jamestown dam.



Yellow perch infested with black grubs, as shown by the black spots over the body surface, and yellow grubs as shown in the section cut away below the back fin. Photo by George H. Gordon, Pennsylvania Fish Commission.

Wormy Fish Common A Century Ago

As the height of the bass and panfish season approaches, some fishermen probably will encounter wormy or grubby fish. The most common form reported in Pennsylvania waters is the "yellow grub," a small, yellowish worm parasite which encysts in the flesh or beneath the skin of fishes and frogs and often causes wart-like bumps or protuberances.

Other parasites that may be encountered in fish include the "larval red roundworm," a small, thread-like worm found in the flesh; small white grubs in the liver and soft tissues, tapeworms in the intestinal tract, small black grubs just under the skin, and leeches attached to the external surfaces, such as the fins.

There is probably no danger of any of these worms infesting human beings—even if some should be swallowed alive. Thorough cooking of wormy fish makes them absolutely safe. While there is naturally a strong prejudice against eating fish which contain large numbers of these parasites, it is actually a waste to throw them away.

The study of the life cycle of the yellow grub shows that it is dependent upon fish-eating birds and snails for completion. When a fish-eating bird, such as a heron or bittern, eats a wormy fish, the young worms grow to maturity and remain attached to the throat or mouth of the bird.

Each worm lays countless numbers of eggs which pass through the bird and often are deposited in water. Here the eggs hatch, and the minute worms penetrate, if present, some species of snail. In this host the parasites undergo further changes and emerge from the snail in a form that can penetrate a fish.

If a suitable fish or frog host is encountered—such as a perch, bass, or sunfish, the parasite enters, encysts, and causes the grubby condition. The infestation occurs during the summer, but by late fall the worms leave and the fish generally are free from these parasites during the winter. Infestations by even great numbers of yellow grubs do not appear to be fatal or to injure fish to any noticeable extent.

Other fish parasites have life histories equally or less complicated than the yellow grub. Wormy fish are encountered in wild lakes and streams over a wide area, including Canada, and the condition is not in any way connected with pollution.

As outlined previously, the life cycle of the yellow grub depends on snails and fish-eating birds, and the heaviest infestations are found in shallow waters where birds, fish, and snails are most closely associated.

Worm parasites in fish certainly are not new, for they were described a hundred years ago and no doubt were present when the white settlers first set foot on American soil.—*Report by Arthur D. Bradford, pathologist, Fisheries Research Laboratory, Pennsylvania Fish Commission.*

FISH COMMISSION ELECTS OFFICERS

C. A. French-Retained Executive Director

At the annual meeting of the Pennsylvania Fish Commission held July 6, 1951 for the election of officers in accordance with the provision of Act No. 180, the following officers were chosen.

Honorable Bernard S. Horne of Pittsburgh was elected president to succeed M. L. Peek of Radnor; Honorable Paul F. Bittenbender of Wilkes-Barre was elected vice-president, succeeding Mr. Horne; and C. A. French was retained as Executive Director.

IWLA SPORTSMEN'S FIELD DAY AT READING

The Berks Co. Chapter, IWLA will hold their Annual Sportsmen's Field Day on Sunday, Aug. 26 at the South End Gun Club headquarters near Loraine on the Philadelphia Pike below Reading.

The day will be devoted to all sports including fly and bait casting, target shooting, running rabbit. Mo Skeet, revolver shooting, also a 50-bird Lewis class clay pigeon shoot. All competitions are open to the public. Games for the ladies and children.

Fred L. Soissons of Hastings, Pa., one of the world's best trick and exhibition shooters will perform. Food and refreshments available on the grounds with ample parking space. Admission Free Bob Bersen is publicity chairman for the event.

Gordon L. Trembley
Chief Aquatic Biologist
and
DeWayne Campbell
Fishery Biologist
Pennsylvania Fish Commission

Story by Richard Williamson

Photographs by George Gordon
Official Photographer
Pennsylvania Fish Commission

The Future of the *Chain Pickerel*

THE chain pickerel provides fine sport for a large number of fishermen in lakes, ponds, and streams of northeastern Pennsylvania.

Photographs taken 30 or 40 years ago are evidence that it was possible in those days for a party of anglers to catch a large number of pickerel in a single day. Today there are good laws protecting the pickerel, and fishermen are learning to fish for recreation instead of for meat.

But complaints are heard that the pickerel fishing is getting poorer, and sportsmen are doing a lot of guessing as to the reasons. So this summer, as the mobile field unit of the fish management program of the Pennsylvania Fish Commission works on lakes in the northeastern part of the state, it has added the pickerel to the list of problems it seeks to solve in the interest of better angling.

"Tip-ups" are used in ice fishing, each fisherman is allowed five tip-ups.

Actually, the staff in the field is at work on what may be termed the second phase of the problem of the future of the chain pickerel. Much work on this particular project already has been done, and some interesting conclusions are indicated.

Ice fishing, paradoxical as it may seem, presents one of the "hot-

test" problems where chain pickerel are concerned. Many anglers have long contended that ice fishing for pickerel destroys summer sport by decimating the pickerel population of the future. They base that contention on the assertion that a majority of the fish taken through the ice are females which are killed before they have had an opportunity to spawn and help to perpetuate the species. In fact, the assertion has been made consistently that 75 per cent of all pickerel taken in ice fishing are female; and, as one sportsman lamented, "There surely won't be a female left to lay eggs in the spring time."

So great had this controversy become that in the winter of 1950-51, the Fish Commission decided to make a study of the problem to learn, among other things, whether or not a change in the law permitting ice fishing in certain waters would be advisable. The Fish Management Unit was called upon to analyze the problem and also to make its recommendations.

The Fish Management Unit immediately realized that the assignment would eventually involve more than setting down figures on ice fishing. That would be only a preliminary step into a broad, thorough study of the entire status and future of the chain pickerel in Pennsylvania waters.

↑ This female pickerel, taken by ice fishing, has been opened to show the eggs.

← A good catch—four chain pickerel and two yellow perch.

To get the basic facts, form letters were sent to State Fish Wardens in the pickerel counties asking that a pickerel census be made. The Wardens were instructed to contact fishermen on the ice and ask their cooperation. When this was granted, the fish were opened (the only true check on sex) and the sexes tallied.

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FISH MANAGEMENT In Action

By GORDON L. TREMBLEY
Chief Aquatic Biologist
Pennsylvania Fish Commission

Photographs by George Gordon, official photographer, Pennsylvania Fish Commission

Fish Commission Combines Predator Control and Fish Salvage Work in Conneaut Lake

A practical demonstration of the functioning of the fish management program of the Pennsylvania Fish Commission may be observed on Conneaut Lake, in Crawford County, the largest natural lake in the state of Pennsylvania.

It is a combined fish predator control and fish salvage project designed to create better living conditions for the game fish of the lake.

Studies of Conneaut Lake, made by the Commission's Fish Management Unit in 1949, revealed three significant facts:

1. That no fewer than seven species of game fish were found in the lake.

2. That the longnose gar was common in the lake.

3. That the carp population of the lake was greatly increasing in numbers.

The three discoveries actually were closely related.

All of the species of game fish in the lake in their adult stages require smaller fish as the major portion of their diets. The longnose gar also feeds upon smaller fishes. And the carp were increasing so rapidly that they were encroaching upon the living space of other fish in the lake.

It was immediately apparent that unless management measures were instituted good fishing would in turn be impossible in the lake. For obvious reasons, it was necessary to create a better environment for the valuable game species.

Because the longnose gar, which competes for food with the desirable game species, is of no direct value to the angler, it was recommended that steps be taken to reduce the number of gar in Conneaut Lake.

At the same time, it was real-

(*Conclude on Page* 14)

Top Left:

Baiting a carp netting area with cracked corn.

Above:

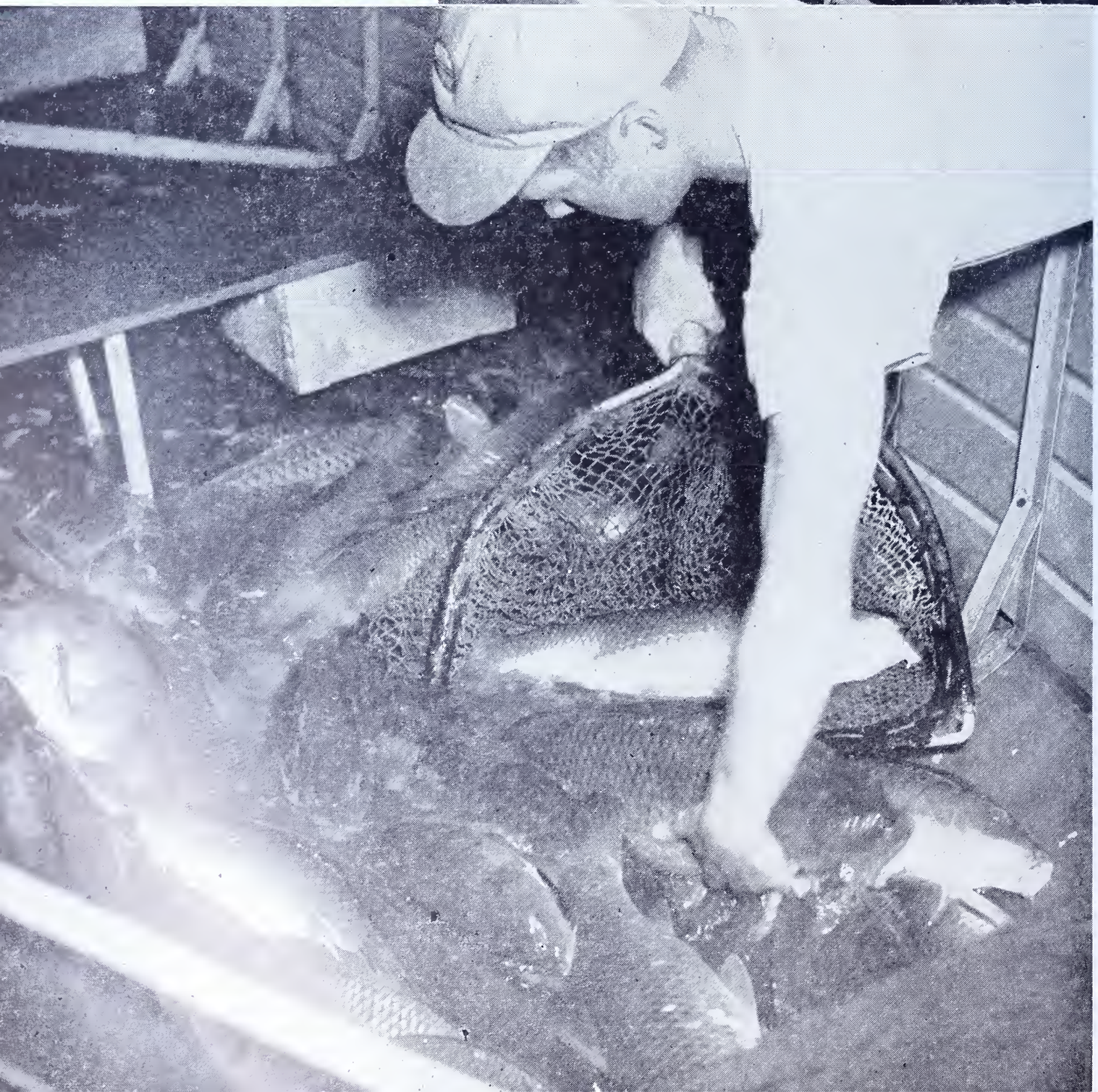
A school of carp, feeding on corn, are surrounded with a drag seine.

Below:

Pulling in the catch is a wet job calling for plenty of arm muscle.

The bottom of the boat is used as a live-car to hold the catch until they can be transferred. →

Here the fish are removed to the Fish Commission's truck for transportation. These lunkers will be plenty of fun to catch but in other waters. ↓



Northwestern Division District Supervisor Carlyle Stockton weighs one of big carp. A lot of water on the fish hatchery!

These lucky fellows are impressive as water is splashed everywhere by thrashing tails. The lucky will have fun yanking in these big boys.

A few longnose gar that were taken by spearing. The largest is a female. For full story on these fish see the June 1951 issue of the PENNSYLVANIA ANGLER.

FISH MANAGEMENT IN ACTION (Concluded)

ized that carp provide good sport and food in many waters in Pennsylvania, so it also was decided to remove some of this species from the lake for transfer to other waters.

Thus the combined project of controlling the predatory gar and of salvaging the carp for use in other waters was adopted.

Gar spawn in Conneaut Lake about Memorial Day. During this period these fish "school up" near the spawning beds.

Taking advantage of this condition, Fish Commission employees and members of the Conneaut Lake Sportsmen's Club were able to kill more than 400 gar in four days. The record for gar-spearing belongs to Walter Lasch and "Huck" Knierman, members of the Conneaut Lake club, who speared an even 100 in one night.

This, incidentally, is the third year of the gar control program in the lake. Fish Warden S. Carlyle Sheldon, who has been very active in this work, reports that the gar population of the lake is definitely lower than it was three years ago.

Carp taken from Conneaut Lake are taken alive in seines and transported in Fish Commission trucks to waters in certain large city areas where otherwise there would be no fishing.

Cracked corn is used as bait to lure the carp over the netting grounds. Several hours later the carp are surrounded by a large seine, and the catch is hauled to shore.

The first night's work—two seine hauls—yielded 112 carp weighing a total of about half a ton. Catches during following nights were nearly as heavy.

This is the first year of carp removal from the lake, and it is too early to report specific results.

But the Pennsylvania Fish Commission believes that through such practical fish management measures as these, better fishing can be enjoyed in the public waters of the state.

Commission Biologist At Summer Fishery Meetings

Gordon L. Trembley, chief aquatic biologist of the Pennsylvania Fish Commission and director of its fish management program, this summer attended a number of inter-state meetings of considerable importance.

One was a meeting of officials of Pennsylvania, West Virginia, Maryland, Virginia, and Delaware, held at Frederick, Md., to discuss fishery management problems in lakes and streams, with special emphasis on waters common to more than one state. Also discussed at this conference were the plans of the various states for use of funds apportioned by the federal government—as their share of federal taxes paid on fishing tackle —to promote fish management programs.

Mr. Trembley also attended a conference, in Toledo, O., of officials to discuss problems in reference to the management of commercial fishing in Lake Erie. He was accompanied to this meeting by Edwin Hahn, superintendent of the State Fish Hatchery at Erie.

Others attending the conference represented the Dominion of Canada and all states in this country bordering on Lake Erie.

SENATOR JAMES H. DUFF BLASTS POLLUTION AT 5-STATE CONFAB

In the daily jumble surrounding world shaking deliberations concerning the MacArthur issue, price controls and crime investigations, it was encouraging recently to note a blast on stream pollution from Senator James H. Duff, former Pennsylvania governor now occupying a Republican chair on Capitol Hill.

Not that such a pronouncement is out of keeping with the gentleman from Pennsylvania's record. His efforts to clean up his state's Schuylkill River and as a leader in promoting the conservation of natural resources provided a highlight of his governorship. So widely is his thinking along these lines respected that he was invited to give a major speech on pollution at The American Forestry Association's 1949 annual meeting in Wheeling, West Virginia.

Speaking at a five-state conference of the Interstate Commission on the Potomac River Basin June 7, Senator Duff said, "At a time when under Point Four we are sending funds to all parts of the globe, we had better reactivate our thinking about points nearer home. There is no reason that in the richest country in the world one of its most fabulous resources should be so corrupted."

Getting down to specific cases, he asserted that where the Ohio River passes Wheeling, West Virginia, it contains not water but "thinly diluted sewage." He also cited the decline in the oyster harvest of the Potomac-Chesapeake area from 15 million bushels a year to one-fifth that amount, declaring this condition was due largely to pollution.

In Senator Duff, conservationists have an able spokesman who should be encouraged to speak out in legislative circles where it will do the most good. Through men in his status can come much more quickly the realization of an end to neglect and waste of water, land, soil and forest resources. It is unfortunate so many legislators become so engrossed with worldly problems that they fail to be properly impressed with the gravity of problems confronting us close to home.

—From July Editorial "American Forests"

READ — LEARN — OBEY PENNA. FISH LAWS!

Rules and Regulations

By W. W. Britton
Chief Enforcement Officer
Pennsylvania Fish Commission

Letters to us indicate that many persons who read the Angler are not familiar with the Commission's Rules and Regulations. This is no doubt brought about by failure of the fisherman to read the summary of laws he receives with his fishing license.

Section No. 251 of the Pennsylvania Fish Laws empowers the Executive Director, approved by the Commission, to promulgate such rules and regulations deemed necessary to better protect the future fish supply in all inland waters, boundary lakes and boundary rivers. They may shorten or lengthen seasons or close them. Increase or decrease the creel limit. Set up certain streams or parts of streams as projects. Fishermen's Paradise is a fitting example. Slate Run is another. When this is done the stream or portion thereof is well posted with signs setting forth the rules and regulations for angling thereon.

Fishing between March 15th and April 15th is a rule and regulation and also a law enacted by the Legislature.

Under Cases Settled which appears in the Angler each month it will be noted anglers have been penalized for violating rules and regulations which means it could have been one of many infractions. He may have fished between March 15th and April 15th in an inland stream, used the wrong device at the Paradise, had more than fifteen frogs in his possession, selling bait-fish or fish-bait taken from inland waters, importing bait into Pennsylvania for re-sale without proper permit, etc.

The reason the term RULES AND REGULATIONS appear on the report instead of what actually happened in the case is this; at first when the list of violations was published in the Angler and a person was arrested for using liver as bait at the Paradise, the reader was often confused and would write to us and want to know when it became unlawful to use liver as bait. The fact was, it was not illegal to use liver as bait except at those projects which came under the Commission's rules and regulations.

The question in most anglers minds is this; how am I to know what these rules and regulations are? How can I keep from being arrested? First of all, you should read every word in the Summary of Laws which you receive with your fishing license. If you don't receive a copy of this summary, then you should write to us here at Harrisburg and we will be glad to send you a copy. Secondly, you should not engage in any type of fishing, bait-fish included, until you have familiarized yourself with the law governing the same. Your local Fish Warden is the person for you to contact. He has the answers. In the event you don't know him you are privileged to write us here in Harrisburg. We are always glad to give you any information you desire and help you at all times. If you don't know your Fish Warden you should get acquainted with him or feel free to write or call him on the phone. By so doing you will get your information quicker and after all he is the Fish Commission representative in your area.

WHEN one follows the gentle sport of father Walton for any length of time he must be prepared for some very rude shocks. These shocks are the accumulated dividend and paid up interest that accrue to our account as anglers. They are also the way by which we are tested as to our fitness to survive as anglers.

A study of anglers as they submerge unexpectedly and emerge rapidly from an unexpected dip in the drink gives the spectator rather keen insight into the character and experience of the angler. The timid trickle over boot-top, the half squat brought about by slippery cobbles or the stumble that wets one leg and an arm are no more index to the skill of an angler than the philosophical conclusions of a college freshman are an indication of his maturity.

I hold with the school of thought that follows the old adage of, "What ever is worth doing at all is worth doing well." Therefore if an angler is going to fall in at all he should get thoroughly wet.

A diver enters the water with the least possible disturbance to both himself and the element. The form, balance and coordination are the points on which he is judged. His grace and beauty of movement are a wonder of trained skill. The angler belongs to the natural school which believes the violent acrobatics of the body, and the size of the splash are marks of vital excellence. The timid soul treading fearfully and cautiously makes many false starts before he achieves even a half-hearted unsatisfactory dunking.

That this performance is unwilling on the part of the performer is obvious to the observer. The bold dashing character who cares neither for slimy stones or slippery bottom does not come to grief nearly so often but when he performs it is with gusto, enthusiasm, much splashing, spoutings and hilarious laughter.

I saw one superb performance by a master of the craft who, while fast to a two pound rainbow, did a graceful back flop from the boulder on which he was perched, into five feet of water, came up

Illustration
By
BOB HINES

spouting and shouting with laughter, without losing his grip on his rod or contact with his fish. He fought and landed the trout with as much aplomb as a British diplomat. Then to show that this was not his first descent into the deep he withdrew a waterproof pouch which contained his pipe, tobacco and matches and proceeded to have a real laugh followed by smoke.

His observation was to the effect that a fishing trip was in no way complete without at least one hearty and healthful wetting the advice of M.D.'s not withstanding. In fact he very seldom had any luck until he had completed at least a partial reconnaissance of the fishes own element from a very personal and original view point in as far as humans are concerned. He observed that a glimpse of the silvered surface of the water from the underside was conductive of an accurate choice of lure for the day.

Although I do not consider myself an expert at this gentle art of dunking I have a few polished performances to my credit and have witnessed many others. I make no attempt to name or classify the various types but merely give examples and leave to the more gifted to catalog and name them.

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DUNKING — *An Art!*

By ALBERT G. SHIMMEL

No . . . this story doesn't tell of a new technique for dunking your breakfast doughnuts or sugar cakes. It's a much more rugged hobby which we do not especially recommend.

Have you breathed the faith of fir trees
by the lure of campfire light?
Watched the wistful shadows creeping
toward the restful lap of night?
Have you sent your thoughts a-homing
to the source of space and time?
Felt the pulse of soul communion
full and firm with the divine?
Sensed the wonders of creation? Gripped
the purpose of the whole?
Then you know the mystic sweetness
that comes stealing o'er the soul
As on balsam boughs spread thickly on
the mossy mountain sod,
One with questioning eyes look upward
to the very heart of God.

M. D. Geddess in *Canadian Nature*

Take the Family Camping

By CARSTEN AHRENS

It's camping time again. Oh, I don't mean sending Mary for ten days to that camp by the shore or Johnny to the one in the mountains. That may be the only thing to do if Mary and Johnny are orphans. I mean it's time for the family *as a unit* to leave their ordinary way of living, their usual associates and associations, and go camping.

For many years I was one of the camp ground rangers in a national park. We looked forward every summer to the return of hundreds of families who enjoyed year after year that democratizing experience of living together in at least a semi-wilderness. They lived with us in trailers of all descriptions, in tents of all sizes and shapes; some came with only sleeping bags plus a tarpaulin to stretch like a canopy above the camp table.

Even though they would be with us but a short time, we could see them grow. Their ages had nothing to do with it. For there were hours of wind, waves, and sunshine. There were days of breathing deep in the sparkling air scented by sea or pine needles.

Everywhere was adventure. New things were learned . . . never by rote. They became acquainted with herbs, shrubs, trees, and wild life. The chipmunks and red squirrels, grouse and chickadees, hemlocks and rhododendrons . . . all became acquaintances, maybe life time friends. And the city dwellers would always become suddenly and enthusiastically aware of the wonderland of the skies.

Camping is good for children in other ways, too. They learn the worth of cooperation in the simple camp chores. Many an adult has found solace in labor. No child does. To him there is no fun in work. But camping points out that work, while not necessarily enjoyable, is reasonable; that many hands will do the jobs more speedily than will two. It is obvious that water must be carried, wood chopped, meals prepared, dishes washed, etc. By working together there will be more time for everyone to play, fish, swim, or explore.

Camping should be an important part of every family's year because

it represents an ancient way of life, the only way of life our forefathers knew. It is our only chance to recapture those experiences of our ancestors which a few enjoy vicariously in the historical novel. It is a part of a child's almost forgotten heritage to which he is surely entitled.

Camping is something of an art, and a good camper is usually one who has camped before. You'll discover the second year at camping goes much more smoothly than the first. You'll learn to plan. You'll leave many things at home that you once regarded as essential.

Take baby along. Our Jon was four months old when he began his first wilderness summer. Long sleeved shirts and full length overalls will probably be more important than sunsuits. The extra cloth will protect the tender skin from insects and sun. Wide-brimmed hats, mosquito netting, sunburn and chapping creams, and lip pomade should be included. Take cans of baby food if Junior is small, for picnic fare isn't for him.

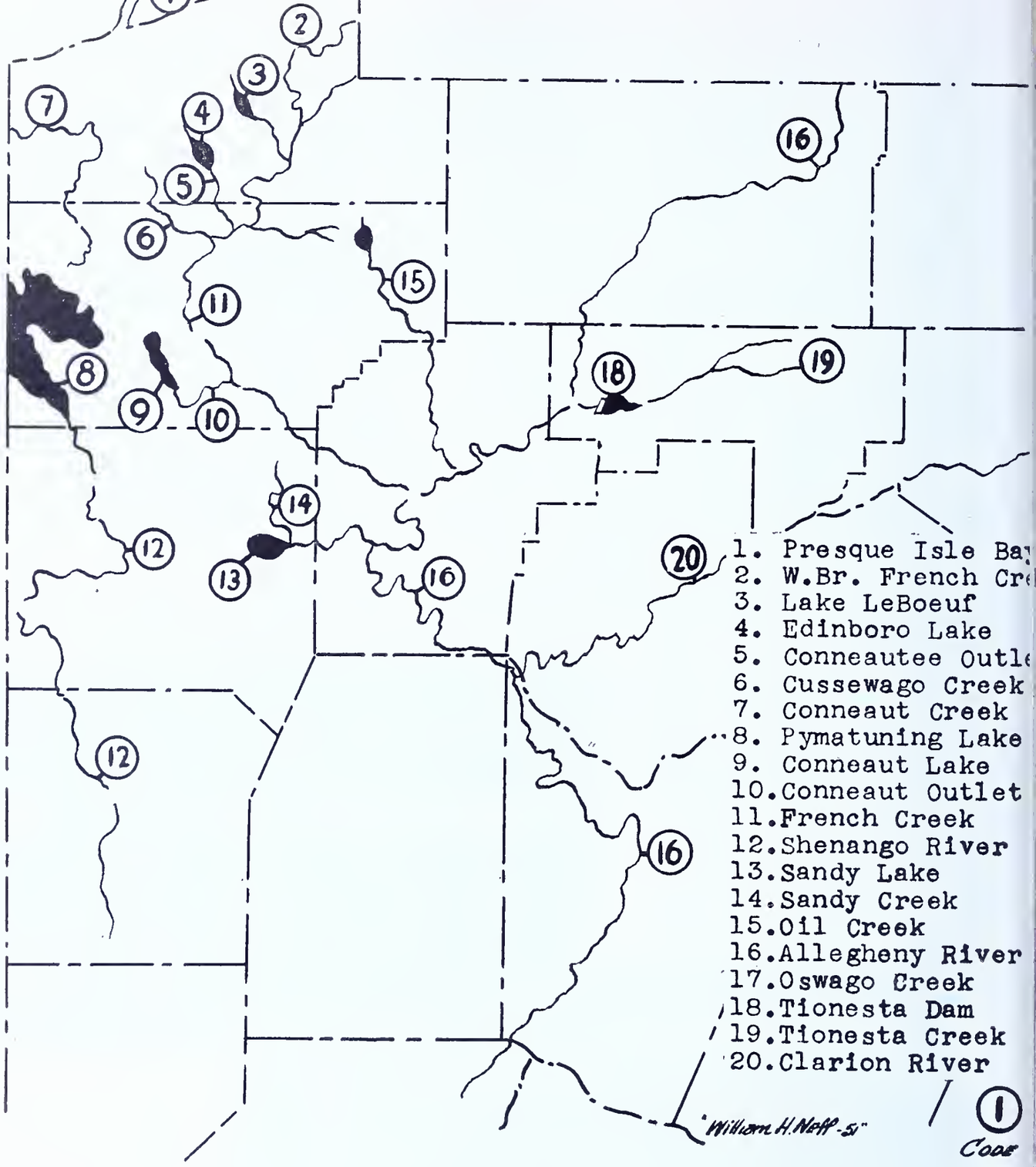
America is blessed with many areas that have been wisely set aside for her children's recreation. Millions of citizens visit our national parks and forests annually. Even greater numbers visit our state forests and parks. Many of these visitors are campers; they really get better acquainted with the areas than do any other group.

We in Pennsylvania are especially blessed in the number of wilderness-recreation areas that have been reserved. Most of them offer fishing, and facilities for bathing and camping. If your vacation is too short for a distant trip, there is probably a state park or forest close enough so that you and your family can get away from the 50-week-routine for a week or two of relaxation that is different and satisfying. I have an elderly acquaintance who looks upon the West with horror! He let his son and a nephew take him on a ten day vacation in his son's new car. They touched at least twenty-four states, "visited" ten national parks and a number of monuments. They drove most of each day at speeds up to 72 miles an hour. The last day they covered 750 miles so that they could all be back on the job again.

The following year they spent their entire vacation at Cook's Forest. The hemlocks there aren't as thick or as ancient as the sequoias of California, but my friends had time for appreciation and relaxation.

Take the family camping. There is something unforgettable about an open fire of snapping logs . . . logs you have chopped into suitable lengths yourself. Bacon and coffee elsewhere never have quite the aroma that a woodfire in the open gives them.

It's wonderful when a family encircles a fire after a long day in the sun and wind. Shoes come off, and toes stretch toward the comforting blaze. The events of the day are exchanged. If your family is like mine, you'll soon be harmonizing your favorite camp fire songs . . . "Tell Me Why," "I've Been Working on the Railroad," "Let the Lower Lights Be Burning." Later, when the fire is a mound of glowing coals, everyone crawls into his sleeping bag; the thick duff beneath the pines makes a wonderful mattress. There are excited little whispers between the bed rolls about tomorrow's adventures and then, suddenly, silence. The moon swings up. The pines gossip softly above you. And you lie there, looking into the star-pierced dome overhead, and thank God for your family, for vacations, for recreation areas, and especially for America where such blessings are not only possible but commonplace.



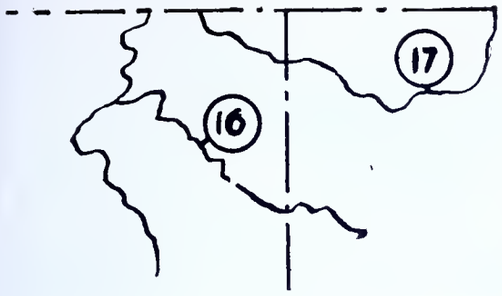
SO, you wantta catch a muskie? Well, you need not travel far astream. We have what might be termed a poor man's muskie paradise within the Northwestern section of our state.

Contrary to popular opinion, these waters of our state yield some huge fish each year and their wide distribution makes it possible to fish for this angling prize without the pressure attendant the trout, bass and walleyed pike fishing. Let's examine each of these waters from the standpoint of location and productivity.

To fish the Allegheny River in its entirety requires a non-resident license. However, muskies within the borders of the New York section of the Allegheny River, with few exceptions, are no larger than the fish found in Oswago Creek and the upper Allegheny lying within the borders of Pennsylvania.

You, if a confirmed muskie fisherman, must go downstream in the vicinity of the Kinzua Railroad Bridge before your chances of hooking a really creditable fish improve. From Kinzua down past Warren, Tidioute, West Hickory and on to Tionesta the casual, as well as rabid, muskie fisherman is safe in assuming that there are large muskies in every deep, slackwater stretch or eddy.

From Tionesta to Oil City and downstream through Franklin, Kennerdell, Emlenton, Foxburg, Parker City and on to Lock Number 8 there is some very productive water. The section from Franklin downstream has been further enhanced by the increase in northern pike that have moved down from Sandy Creek.



Obviously, in fishing for muskies you are just as apt to hook a northern pike when both are in the same water. If asked to venture a guess at the top size of muskies in the lower Allegheny River I'd say, without fear of contradiction, that there are undoubtedly quite a few in the thirty to forty-five pound class and, of course, there is always that possibility of a record breaker. After all, the world's record came from Conneaut Lake not too many years ago.

In fishing the Allegheny River one should not overlook two good muskie bets. The Tionesta Creek, both above and below the dam, annually produces some very nice fish. By nice, I'm referring to muskies above ten pounds and up to eighteen.

In time, with the increase in food fish within the dam, from Tionesta to the former site of Nebraska, your muskie fishermen will be taking some prize fish. Remember, the Tionesta Creek yielded some big muskies before the dam impounded its waters and this should soon be an excellent muskellunge producer.

When fishing in the Foxburg-Parker City section of the Allegheny River the possibilities of the lower reaches of the Clarion River should not be overlooked. Its boulder-strewn pools harbor some fine fish and everything is in the muskie's favor once you've hooked him. It takes strong tackle to keep them from fouling your line or cutting it on the submerged rocks and logs.

Sandy Creek and Sandy Lake are quite similar. In neither body of water are the muskies too numerous. In fact, in Sandy Creek the northern pike probably outnumber the muskies 20 to 1 and these 'lunge do not run large.

Legal sized fish can be caught but you'll not drop over from a heart attack while battling them. In the past few years muskie fishing in the lake has fallen off. This may be due to the rapid increase of northern pike. In any event, the lake is not yielding too many muskies. Despite this apparent scarcity an occasional fish over twenty pounds is taken from the lake.

Oil Creek, a muskie stream of lesser importance, flows into the Allegheny River at Oil City. It does contain quite a few 'lunge in some of the deeper slackwater stretches but the fish are not large enough to tempt any but the casual muskie enthusiast. This stream heads from Canadohta Lake.

The lake in question is not, but could be, a top notch muskie producer. Occasionally a creditable fish, upwards of fifteen pounds comes from this body of water but it is much in need of restocking.

The West Branch of French Creek and French Creek proper have long been regarded as top notch muskie waters. The West Branch, by the very nature of the water, seldom produces a fish over the fifteen pound class. It's a prolific producer but if you are after big muskies go downstream.

From Mill Village and Miller Station down through Cambridge Springs to the entrance of Conneautee Creek your chances of hooking a 'lunge up to thirty pounds and over are always present. In fact, the stretch from Cambridge Springs down through the Conneautee Hole produces more big muskies each year than any

(*Turn to Page* 26)

By W. T. PATTERSON

Illustrated by William H. Neff

It may come as a surprise to many but Pennsylvania does have muskie fishing. Examine the map, compare streams and spots with the author, then take off. It's a thrill to be mangled by a muskie!

BLACK MAGIC *FISHING*

Ten million rabbits feet and three million plastic-covered four leaf clovers are sold each year, so it's not surprising that down through the years there have been fish whistles, oils and glow-lights designed to make the big ones bite when they just aren't hungry.

As for me, I don't cater to "daddle" stuff. I know this hokus-pokus is based on an unreasoned desire to make a habit of every act that once brought success. Still, it's funny that an old corn-silked reprobate named Dan in our coil of the Pennsylvania hills catches big ones consistently while we keep on buying fancy salmon at fancier prices or those mustard-soaked glorified minnows in cans. I've fished with Dan and shall tell of his secret, later on.

Heard about the fish whistle? That was a true hoax and some readers may burn behind the ears in memory of an unsound purchase. They said this whistle turned out sound too high for human ears which would lure fish in like weasel to sucking the back of your hand.

Desperate fishermen, unhappy at the family snickering about empty creels, rushed to buy. I'll bet there were those who swore by the whistle which nobody could hear. Maybe some would swear by it today, even though that so-called "fish whistle" never was capable of making a sound . . .

As a youngster our neighborhood had a mossy "still fisherman" who always had a bottle or two of lures aging like wine in a shed behind the house. He was an avid believer in oils.

His formula was simple. He dug earthworms, scrubbed them shiny and white, and stood them in an air-tight jar in the sun until they'd rotted into a grey and exceedingly-offensive oil.

He carried this oil like a medicine bottle and dropped some on each bait, before casting. "Durned best catfish dope on earth," he used to say, a sincere and convinced man.

Don't ask me if the oil attracts fish. That mossy character brought home many fish; that's all I can say.

Out in Michigan the annual perch run at Saginaw is attended like opening day at Shibe Park. It's one of the big pan-fish events in this country. There, a gnarled fisherman, speaking with the wisdom of an old lady of the nine-patch, told us: "Most folks waste that there white juice (milt) which you see spoutin' when you catch male perch this time uh year. Not this here buzzard, you don't see doin' it. I squeeze the stuff into a bottle and put it on my bait later on, when spawnin's done. An' don't go tellin' nobody, but that there's why I catch big perch in summer when nobody else can."

I suppose the summer perch he catches are females.

It seemed that this gnarled fisherman—who was part Indian and held big respect as an angler—also had a pet way of taking bullheads.

He'd row his boat to a shallow section of lake. There he'd clean out the weeds with an oar. Then he'd force a dead tree down into the muddy lake-bottom, so that a branch or two jutted above water.

This done, our gnarled fisherman was ready to place his ace drawing-card. You see, he'd been stuffing chicken gizzards into an old tin-can for months. He had a hammer and nail with him, and he tied a rope onto the can, punctured holes so that vile juices flowed down the can's rusty sides, and lowered the can into the water, knotting it to the dead tree's branches.

Within a couple days our gnarled fisherman figured the lunker bullheads had pulled into his fishing-grounds. First night without moon he was out with tackle and busily taking his limit . . .

I'd heard of using lamps to attract fish but saw a demonstration I'll not forget on a big lake famous for fat, scrappy crappies. It was in the bleak, raw blackness of mid-winter, with occasional snow whipping against our faces.

First our guide cut three holes in the ice, about three feet apart. Like a center-pole he stood a kerosene lantern, with the flame turned so high you saw and smelled the fumes escaping on top.

The bait was a small, thin shiner, fished very shallow, so you saw it turning its silver sides in the yellow light.

It wasn't more than ten minutes until the first strike and the first crappie. We caught a mess of crappies and nobody complained about cold or snow. The guide said: "It's that yellow light climbing down in the water. *That* pulls them in."

I'm certain that you've heard

(*Turn to Page* 28)

By Jack Anderson

Daddle oil . . . rabbits feet . . . elixir of ketcham, tobaccy jooce on the bait all contribute to the hex of fishing superstitions. The writer takes you through the gamut of good luck oils, charms, perfumes and baits.

AMERICAN FISHING BOOKS

By CHARLES M. WETZEL

Part 5

Another interesting installment from the great book by Charles M. Wetzel, hand bound by the author to appear soon in a limited edition of 200 copies. More than 2000 American fishing books are described in the volume.

Copies of the limited edition can be secured from Mr. Wetzel at 132 Capitol Trail, Newark, Delaware."

In the year 1865 Robert B. Roosevelt wrote another book entitled *Superior Fishing.* From it one infers that "Barnwell" still clung to his cedar fly rod but he makes mention of a rod of all split bamboo which was used in one of the first-fly-casting tournaments to be held in this country. Speculation as to the actual length which a fly could be cast was mounting daily for, just prior to that time, Mr. Seth Green—one of New York's best fly casters and a noted fish culturist—was awarded a certificate for casting the almost unbelievable distance of one hundred feet.

The contest was held in New York in 1864, at the convention of the New York Sportsmen's Clubs when a handsome prize was offered for excellence in casting fly. Roosevelt mentions that:

"No rod was admitted that exceeded twelve feet six inches in length, or that weighed over one pound; and gut leaders of not less than eight feet were required and to this three flies were to be attached. The rods used were respectively of ash with a split bamboo tip; and of split bamboo construction throughout; and were all of the best workmanship and perfect representations of their kinds; the contestants were some of the best anglers of the state and nothing occurred to mar the pleasure of the contest, or to disparage the correctness of the award. The prize was won by the cedar rod which was twelve feet, three and one half inches long; and weighed with heavy mountings fourteen ounces; and the greatest distance cast with the right hand was sixty-three feet, although the allowance carried the official return to sixty-eight feet; and with the left hand, the absolute distance was fifty-seven feet. The author cannot help adding that the cedar rod was in his hands, and that the prize is now in his fireproof safe, as he thinks that success at such a trial and against such competition is legitimate ground for no little vanity."

From the above account, we here have definite proof that rods of all split bamboo construction were in use as early as 1864. It is also interesting to note that Seth Green was later vindicated when it was officially confirmed that his disputed cast of one hundred feet was correct. He had a rod and line prepared for casting a great distance, unlike that used for ordinary fishing; and I imagine that if the specifications for his tackle were in existence today it would be a matter of great interest to our tournament caster.

With the advent of the split bamboo fly rod, we must here take note of another recent development, that is, the matter of lines. It will be remembered that up until this time fly lines made of horsehair, and also of silk and hair, were considered the finest; and before closing this account of *Superior Fishing* we must give Roosevelt credit for coming out with the bold and positive statement that:

"The best line by far, for both salmon and trout fishing, is the braided silk covered with a waterproof preparation, and tapered to the fineness of the gut leader. If this can be obtained, no other should be thought of, but if it cannot, the others are about on a disgraceful par of mediocrity; the one that is usually praised, that of silk and horse-hair mixed, being if possible the worst, for while it has the weakness of the horse-hair, and water soaking capacity of the silk, it has a difficulty especially its own, arising from the protrusion of the short ends of hair that have broken or rotted off, and which are constantly catching the rings or guides."

In the same year, i.e., 1865, a Frenchman named Benedict Henry Revoil wrote *Shooting and Fishing in the Rivers, Prairies and Backwoods of North America.* The work appeared in two volumes, however, it is an English translation of the author's two earlier works that appeared in French.

The author, a gifted and talented journalist for the *New York Herald,* was an intimate friend of W. H. Herbert (Frank Forester) and W. T. Porter. Volume I, the more readable, is devoted to hunting while the second deals with fishing. A great deal of the matter must be taken with "a grain of salt" for it is apparent that Revoil was gifted with a fertile and vivid imagination that at times almost approaches the ridiculous; nevertheless, the work is of absorbing interest and contributes a great deal to our knowledge of angling in America.

The Sportsman and Naturalist in Canada, 1866, by Major W. Ross King, is a rather large volume and contains colored plates of the wild turkey, the prairie hen, the Canada and ruffed grouse, the whitefish, the masq'allonge, and the black basse. Considerable information on the salmon and salmon rivers can be found in its pages, as well as on other fish indigenous to Canada.

In 1869 Genio C. Scott, a New York publisher of fashion plates, a skilled fisherman and one of the promoters of Pennsylvania's Pike County "Blooming Grove Park Association" brought forth a book entitled *Fishing in American Waters.* The work is more or less of a miscellaneous nature but in it are various observations that ap-

pear worthy of thought, as evidenced by the following:

"While I believe that trout are not so discriminating in the selection of artificial flies, as to evince acuteness of vision, yet I have experienced that on certain waters, when the streams are low and clear, a copy of the living fly is more or less necessary to success."

The present author believes that if Mr. Scott were fishing for the highly educated brown trout of today, the above statement would be couched in far bolder and more positive terms. Scott mentions that:

"Rods made from split bamboo are unquestionably the best; but a Robert Welsh rod, of ash for the butt and second joint, lancewood for the third, and split bamboo for the fourth or top joint, is the best rod I have ever owned for general fishing."

The author illustrates a "Modern Splice for Fly Rods" which was considered the latest development for joining the sections of a rod together. Shortly after this, ferrules came into existence in this country, superseding forever the old-fashioned splice.

On August 14, 1873, Charles Hallock—then forty years old—issued the first number of *Forest and Stream,* a weekly sporting magazine that was destined to play an important part on future matters pertaining to the conservation of fish and game in America. The undertaking was fortunate in its parentage, for of all men of his day Hallock was the one most generally equipped to plan the new publication and successfully to launch it. All his life he had been an ardent sportsman; he was a pastmaster in the art of angling, a genuine lover of the woods and of wild life, a traveler of rich experience, and an explorer who had seen many an arduous campaign. He possessed an extensive knowledge of the sporting resorts of the country, and enjoyed a wide acquaintance with sportsmen, naturalists and public men. He was gifted with a literary style of alluring grace and charm and fortified with long experience as a trained newspaper man. Thus in every respect he was admirably fitted not only to project the undertaking but to accomplish the self imposed task.

Up until this time conservation was practically unknown, except by a very few who had the vision to perceive that measures had to be taken immediately before the fish and game in the East became totally extinct. Already it was noticeable that the fishing was becoming poorer and poorer. When the magazine made its initial appearance the word "sportsman" was in such questionable repute that the "New York Sportsman's Association" thought it necessary to change their title to the "New York State Association for the Protection of Fish and Game."

The early numbers of *Forest and Stream*—in addition to its hunting and fishing news—contained articles on Gardening, Baseball, Billiards, Cricket, Croquet, Chess, Turf and Indians, however, the latter gradually faded out of the picture.

(*Concluded next issue*)

PYMATUNING LABORATORY UNIV. OF PITTSBURGH

(*From Page 6*)

of small organisms which form the basis of food chains leading to the game fish, one of the investigators has shown them to be among the highest ever recorded. Another by working with the relationship between the weight and length of the game fish has shown them to be of uniformly good condition and to compare favorably with the condition of the same species in other lakes, indicating that food is abundant enough for the population of fish present and the populations are probably not seriously out of balance. In a detailed study of the walleyed pike it has so far shown good growth rate for all age classes in all areas of the lake, although we still do not have enough records for this species to make positive statements.

Among the forage species the Blunt Nosed Minnow is most widely spread through the lake with the Lake Emerald Shiner and the Gizzard Shad running close behind. The carp is one of the most important fish in the lake, not only for their value as a forage fish for the larger game species, but as a game species in their own right. The masses of carp that congregate at the Linesville spillway also form one of the more spectacular displays of Pymatuning. Their objectionable habits have long been a matter of controversy among anglers. So far the stomachs of this species examined have contained small plankton and bottom animals, such as water fleas and blood worms, with remarkably little vegetation and no eggs of other species at all. Their supposed detrimental effect on the growth of rooted water plants is being investigated by enclosing 1/100 acre plots with chicken wire and then comparing the growth of the plants in these protected areas with adjacent areas in which the carp are not excluded. So far there has been a considerable better growth within the protected areas although again we do not have sufficient returns to be certain.

The bottom soils within the lake are relatively high in organic material as compared with other lakes and this has undoubtedly helped a great deal in the high productivity of the lake. However these organic soils are now apparently being overlaid with silt and sand deposits due to wave action on shores and this may be associated with a reported decline in recent years. Such effects can only be gauged over a period of ten or more years. No guess can even be made of the effect, beneficial or otherwise, of the hordes of water-fowl that utilize Pymatuning Lake on the production of fish.

It is impossible in a short article to more than skim over the highlights of such a program. There are other projects dealing with the birds and mammals and the plant life. By correlating such detailed studies of a single body of water with the excellent general survey of all Pennsylvania water in progress by the Pennsylvania Fish Commission, the end cannot be other than better fishing for Pennsylvania anglers. The other activities of the Laboratory will also mean better education in the principles of conservation and in an appreciation of nature.

DUNKING—AN ART

(*From Page* 17)

My young friend had begun his angling career in a halo of glory and under the sign of Pisces and stepped into the Shad Fly Hatch with a dry fly and made a killing that had even the old timers scratching their heads in wonder. Each time he went out the Red Gods took a special holiday to watch over their favorite child.

None of the perversaties that plague the beginner touched him during his first season. He went at the trout with a dry fly without the apprenticeship that most good anglers serve before they earn the right to the thrills that go with securing a good trout on light tackle. I doubt that he even tangled a fly on a tree limb during the back cast.

The next spring during a period of high cold water the woes of the world caught up with my friend. While trying to master the small skill of making a black and white bucktail act the part of a striped minnow my friend backed against a hidden stream deflector and sat down.

Not being contented with being wet to the waist he turned over in trying to regain his feet and fell forward in a perfect belly buster. My friend had the complexion of a school-girl and the face of a cherub but the language he used as he emerged from the cold water and surveyed his broken rod tip was anything but cherubic.

It even improved a bit when later as we were extracting the water from his breeches a lady angler appearing and forced him to crouch behind a convenient stump minus that essential part of masculine apparel, while she leisurely took two fine rainbows from the very water where my friend had so recently bathed, before moving on out of sight.

One of the classics of slow motion dips occurred a few years ago on the First fork of the Sinnamahoning. A certain long legged friend of mine was fishing a smooth deep glide during a day-light hatch of Yellow Stone Flies commonly known as the "yellow bouncers." The pool had a floor of smooth flags and an accumulation of mid-summer algae to make them as slick as the way to the hot place. My friend kept working out into deeper and deeper water tempted by the browns that rose just at the extreme edge of his casting range.

Suddenly my friend had a heavy strike. He set the hook and the fish turned downstream with the current. The light pressure of the rod against the fighting trout was the final weight that started my friend moving with the current toward deeper water. We watched helplessly as the water crept over his boot tops and inched above his belt while he held gamely to his rod. Finally just as the water was within a few inches of his armpit his toe found a crack in the smooth rock and his forward progress stopped. Inch by inch he fought his fish hardly daring to breath. Finally when he had it in the net he turned toward shore and worked his way along the crack an inch at a time.

Slowly and surely he made for shore. Eager hands reached for his rod and net. Just as the transfer was made my friend took a quick step and submerged in water less than kneedeep. His progress to shore was in a horizontal position with the technique that youngsters call the "mud crawl."

The only casualty was my friends fly bedecked hat that bobbed jauntily down the current and disappeared from sight. Our faces were perfectly straight although we bubbled and choked with surpressed merriment. Our friend had a violently explosive temper and under such conditions the less said the better.

My own particular masterpiece occurred one day when the Black Moshannon was running bank full and all the pebbles, cobble stones and boulders in its bed had been polished to a glassy smoothness. In order to reach a proper position to float a beautiful left bank pool, shaded by hemlocks I had to cross a swift flat where the water was running about two feet deep. My usual method of wading is to plunge in and trust to luck. All went well until I reached the far bank. Here a smooth flat stone offered a convenient step up the bank. As it was a foot or more under water

I stopped and carefully cleaned the slime to give me solid footing. This I accomplished by scraping it with the side of my boot. Satisfied I set one foot in position and stepped up.

No sooner did I get both feet planted when they lost grip and I made a perfect back flip which wet me thoroughly. Emerging I surveyed the stream in each direction and then moved swiftly into a thicket where with the help of my matches from a waterproof match box I built a fire and dried out. A movie of my dive I'm sure would have been a model of excellence.

My second experience was as surprising to my friends as myself. We had been fishing Moshannon Lake for pickerel from a boat. Now three casters make for anything but safety so I volunteered to wade along the shore. One of my friends remarked later that he glanced in my direction to see me wadding along in water not over two feet deep.

It seemed that he hardly looked away before I stepped into an old beaver canal. When he looked back a second later all he saw was the water rings and my hat floating in the center. A second or two and my head emerged then I stepped up on the other side and waded ashore to dry out.

My friend told me later that he was mystified at my disappearance and wondered just where I had gone so quietly. My recollection is only of the hilarious laughter that greeted my emergence.

There's a particular thrill and a feeling of helpless danger to stand on a gravel bar in a swift cold river and feel the current erode the particles from beneath your feet leaving you sink an inch at a time. Bold action with what the military call calculated risk is the key that will take you up and down the fast waters with a minimum of dunkings. When we must of necessity forcibly invade the fishes element, let us do it with the intoxicated joy of an artist practicing his art.

Asking a woman her age
Is like buying a second-hand car;
The speedometer's been set back
But you can't tell just how far.

"I wouldn't think of eating out nowadays—too expensive!—Will you carve dear?"

WANTTA CATCH A MUSKIE?

(*From Page* 21)

similar stretch in French Creek. There isn't a week-end throughout the season and up to the last day of November that this stretch isn't heavily fished by both the plug casters and bait fishermen.

Conneautee Creek or The Outlet has a few small muskies in its waters but the stream is brushy, tough to fish and hardly worth the effort when larger fish may be found in nearby French Creek.

Downstream from Conneautee Creek the fishing remains good.

You can pass downstream past Meadville, Cussewago Creek, Conneaut Outlet, Cochranton, Carleton and Utica before leaving what is considered to be good muskie water. In the lower stretches of French Creek, from Utica downstream, the muskies are few in numbers.

In passing downstream, I've mentioned two streams that require further consideration. Cussewago Creek enters French Creek at Meadville and this is a grade AA muskie stream. There are big fish in it and the fisherman on Cussewago should be over-tackled if he wants to land his prize.

Muskie fishermen on this stream usually outdo the proverbial "Missouri mule skinner"—no reference to any national figure—in profanity. It is brushy, log-jammed and really tough to fish. A boat is necessary if you wish to plug the stream successfully. If plugging from shore I'd advise taking plenty of extra plugs. You'll probably leave Christmas tree decorations all along the shoreline.

Conneaut Outlet enters French Creek above Cochranton and drains out of Conneaut Lake. In the lower stretches from Route 19 down to its junction with French Creek you stand a fair chance of taking a muskie but they usually run in the ten pound class and under. I'd term this an occasional stream . . . one to fish if you've had no luck in other waters.

Up in the Northwestern tip of our state lies a body of water that is seldom fished directly for muskellunge. Most 'lunge that come from this body of water, Presque Isle Bay, are taken incidental to fishing for other species. Truely, there are some huge fish in this section and a more concentrated effort by muskie fishermen should produce some remarkable catches in the future.

Within less than an hour's drive of Presque Isle Bay or Erie your

muskie enthusiast can find two more bodies of water that rank high as producers of muskellunge. Lake LeBoeuf on Route 19 annually produces some excellent fish. For its size, LeBoeuf is probably the best muskie producer in the state.

In this small, but deep, weed-bordered lake you always stand a chance of hooking into a muskie of the thirty pound class and up. The small stream flowing into Lake LeBoeuf, "Beef" Creek as it is sometimes called, contains a few small muskies but they seldom go much over eight pounds.

In the north-western corner and flowing across the Ohio Line lies Conneaut Creek . . . no connection with Conneaut Lake. This stream is a prolific muskie producer and one can occasionally hook into a fish that passes the ten to fifteen pound class. Its waters are fishable from Springboro to the Ohio Line.

Pymatuning Lake or Reservoir has yet to prove its worth as a muskie producer. In all probability it will, in the years to come.

Conneaut Lake, largest natural lake in the state, is an excellent producer of big 'lunge. Muskies under 20 pounds create no sensation when taken from this body of water. However, muskie fishermen seldom fish this body of water until late in the season. During the early part of the season speed boats plague the lake with little regard for the fishermen. After the second week in September and throughout October and November you can pursue your prize with little molestation from sea-planes or speed boats.

Edinboro Lake, also called Conneautee Lake, lies north by east of Conneaut Lake on Routes 99 and 6. This resort lake, although fished hard, occasionally yields a big 'lunge. However, this body of water, as well as many other muskie waters, is badly in need of restocking to meet fishing pressure and assure the continuance of sport in water suitable to these fine fish.

The Shenango River, draining out of Pymatuning Lake, has long been recognized as an excellent muskie stream. Of late years, the discharge from Pymatuning keeps the stream in a semi-roily condition. This is especially noticeable when the lake is "in bloom." This discharge has seemingly caused a decrease in bass, probably due to sediment covering the spawn, but has not appreciably reduced the muskie population.

From the region of Hamburg Dam down through Big Bend, Clarksville and the Sharpsville Slackwater there are plenty of 'lunge and some of the deeper stretches harbor some real prize fish. The Sharpsville Slackwater produces more and bigger muskellunge each year than any other stretch on the river, but this is due to the fact that it is fished heavier than any other stretch. This river is best fished from a boat. In fact, during duck and small game season you can often combine a squirrel and duck shooting drift or float with the pleasures of muskellunge fishing.

Of course each muskellunge fisherman has his own ideas as to the best bait or baits and techniques for taking this so-called "tiger of the water." My personal preferences are a rainbow finish, underwater, propellor type plug and a standard, Dardevle type spoon during the early part of the season. Late in the season the natural scale finish plugs will outscore this previously mentioned two-some.

In the Fall to consistently take big 'lunge you can't beat a ten to fourteen inch sucker or large run chub. These are still fished by the majority of river anglers and trolled by the lake fishermen.

The use of live bait, both large frogs and suckers, is often confined to "plouting." In this highly successful form of fishing the angler usually employs a fourteen to sixteen foot cane pole, equipped with guides, reel and reel seat. The bait is manipulated with little more line than the length of the pole.

This method permits thorough coverage in, around and near the boat while your partner rows slowly or the wind carries you slowly across the lake. In fact, the lone fisherman with a maneu-

"Your son has a lovely voice—Believe me you have a real throat in your frog!"

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verable boat can usually propel and control the boat by the use of his bait and plouting technique.

If you are averse to the inactivity of bait fishing and wish to cast natural bait I've found the following to be highly successful: Take an ordinary wire clothes hanger. Cut a piece about twelve inches long and flatten one end with a hammer. Drill a small hole through the flattened surface and then file or cut through to the drilled hole. Round the other end and you have a blunt needle with an open eye.

To a flexible wire leader attach a Kirby type hook. Insert the snap in the "eye" of the needle and draw from the mouth out the vent or anal opening of your bait. Attach a large double hook and then draw up into the vent opening. Attach the Kirby hook through the lip and fasten with ordinary cotton or silk thread.

This prevents the sucker or chub from slipping down too far or tearing off. This combination may be cast with or without a spinner and makes a fine trolling combination as your bait will spin or revolve like a minnow used in spinning for trout.

In muskie fishing there are two things to remember. You won't catch one every time you go after them and you can't catch them unless you work hard at the sport. Pennsylvania 'lunge are definitely not parlor or a lazy man's fish.

Our state has much that other states and regions do not have and where muskellunge are concerned we need not take a "back seat" to any of them. They're in there! It's up to you to go after them!!

BLACK MAGIC FISHING

(From Page 22)

of the new "fluorescent" lures. Now you can buy flies which glow like deer's eyes in dark water. They tell me these lures are the true answer at certain times and I suppose those times would be under very dull light conditions.

Any seasoned angler knows that fishermen have little pet tricks—"doodle stuff"—which are mixtures of superstition and fact. But fishermen aren't more superstitious than athletes. Remember that John L. Sullivan would never enter a ring before his adversary. Joe DiMaggio never runs in from center field without stepping on second base.

So it wasn't surprising when I learned that Dan, the corn-silked reprobate, one of our best fish-getters, *did* have a dark secret.

As I've told you earlier I fished with Dan. Dan is a practical fisherman. He uses wet and dry flies for trout but is not too proud to use worms or minnows when streams are swollen. He likes to cast plugs and spoons for bass and pickerel but takes along a bucket of shiners in case these sulky fellows want a leisurely taste of meat.

But it took keen observation to pull Dan's secret of success from him. Why did Dan catch more and bigger fish than the rest of us? Oh, it occurred to us that perhaps Dan knew better how deep to work his lures, which baits to use under various conditions, how rapidly to retrieve, how to coax the best energies from his live baits; but then too, we are egotists all and dislike admitting another's superiority.

So I guess we all were happy when Dan's big secret came out and we knew it was so simple.

For you see, Dan was never seen without a lump of tobacco stuffed under his whiskered left cheek. He never dropped a lure of any kind in the water without first browning it with the strong juices of that universal weed.

You'd think that now, we'd all be catching whoppers and that our lakes and streams would be empty of fish. But this is not the case. Most of our wives refuse to permit us the luxury of tobacco-chomping. And besides, Dan has sworn the local general store-keeper to secrecy and we can't find out which particular brand of tobacco he uses.

So Dan remains the champion. Meanwhile, we return to our laboratories and perfect the oil, whistle, lamp, or other "sure-fire" lure. Or maybe we can buy copies of a lure I saw a fellow displaying recently at a fishing camp.

"Greatest thing since the discovery of worms," he said, and his voice became very confidential. "This is such a fish killer that the Canadian government's passing a law outlawing its use."

My eyes must have stuck out like popper corks and I was sold on the lure. Only trouble was, the character didn't get a strike on the blamed thing during a full day's fishing.

Wonder if Howard Thurston or Houdini took along any good fishing secrets to their graves?

— TACKLE TIPS —

"NEED A SPARE FISHING KNIFE?"

By Don Shiner

A good many fishermen would feel lost if they did not have a pocket knife with them at all times. It is true a knife serves so many useful purposes along a stream the angler is decidedly handicapped without one. It is immaterial what kind is carried but it should be one which has good steel in the blade so that it can be kept sharp and also, for real assistance to the fisherman, the back of the blade should have notches similar to those found on a saw, to facilitate scaling fish.

One of the best knives I have ever seen was a homemade affair. It was made from a scraped hacksaw blade and the teeth were allowed to remain on the back edge of the blade. Scott Johnson of Berwick has made this particular knife as well as a number of others and it is one I am sure would suit the majority of fishermen.

Scott used a discarded machine hacksaw blade for as he said "The heavy machine saw blade has exceptionally fine tool steel in it and once sharpened, it really holds an edge."

These blades are not difficult to obtain as most machine shops use high carbon steel saw blades to saw iron and steel products. When they become dull, teeth broken, or the blade broken, they are scrapped. Often one will break while cutting through a hard block of steel and the broken pieces may be an ideal length for a knife. A piece which measures six to seven inches in length and has one of the original holes at the end is about right for making a fishing knife.

To make one of these knives does not entail much work and the result can be most pleasing. Having found a scrap file or saw blade, the first step involves making a paper layout of the knife blade. The shape of the blade should be first drawn on a piece of paper and then traced on the saw blade. Let the jagged teeth in the back side of the blade. It will serve as a fine fish scaler.

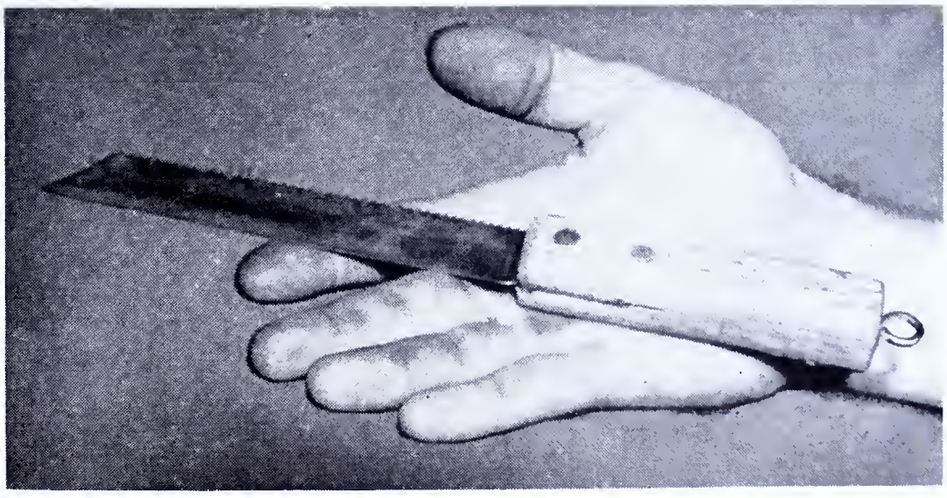
Having the shape of the blade drawn on the saw, simply grind it to the shape of the pencil lines. Grind the sides of the saw blade so that a good even or smooth cutting edge is made and finally, hone it on an oil stone and strop it on a piece of leather to remove the wire edge.

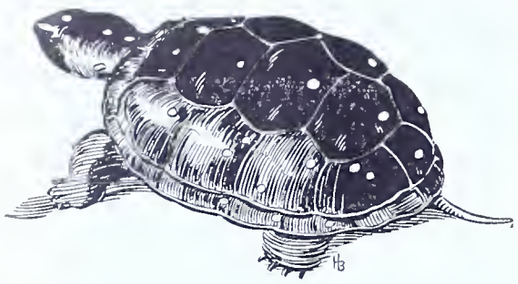
Now of course some provisions must be made to anchor the blade within a handle. It is rather difficult to drill a hole through it unless a high carbon drill is used in a power drill press. Therefore, if the blade has the original hole through it at the end, directly below this a small slot can be ground into it. This slot, in addition to the original hole, will anchor the blade securely within the handle.

For the handle most any material that is available can be used. Wood will make an attractive handle, so will strips of aluminum, bone, staghorn, plastic or fiber material. Oak, white pine, hickory, walnut or mahogany will make a good substantial handle. Cut a billet from one of these measuring four inches in length or longer if your hand is rather large. Sand it roughly to shape and then saw a small slot part way through the wood billet to allow the blade to be inserted. Measure the distance the holes appear in the blade and drill the same diameter holes through the handle.

Complete the knife by inserting the blade into the handle, lining up the holes and riveting the two securely together. A wood handle can be further finished by staining or coloring it with walnut or mahogany oil stain.

You will find this knife a handy companion while astream and in the out-of-doors. It's a woodman's pal and a pal too for the fisherman. For cutting lines, tree limbs, and scaling fish this knife is hard to beat.





CLEAN STREAMS WILL NOT BRING UTOPIA

(*From Page* 3)

to have harmful effect upon the stream.

The other factor is that there will always be some fish killings. Why, it is asked, should this be so? Well, there are three reasons —natural causes; frailties of human beings, and accidents.

Examples of natural causes are occurrences in streams to which acid mine water is discharged but which, over a certain distance, is made harmless by dilution or is neutralized. When freshets occur the acid bearing waters can be flushed farther down stream, into the clean areas inhabited by fish, and the fish are overtaken by the pollution before they can make a getaway to a safe zone. Result, dead fish.

It is also possible for certain polluting substances to be concentrated in pools along the course of the stream, but not in volume to be harmful in normal stream flow. But when a dry period occurs the stream is reduced to low flow. Low water and high temperatures cause the harmful substances in the pools to increase in concentration and to reduce dissolved oxygen to a point where it is insufficient to support the greater number of fish that go there from the shallow stream. Unmindful of the presence of poisons and of the lack of oxygen in their habitat the fish enter the "forbidden" area. Result, dead fish.

Factors involving the human equation are those having to do with the operation of waste treatment systems. No system will perform better than its operator. And it will not adjust his errors or mistakes. Neither will it prevent accidents—and accidents occur in the most efficient operation of every kind—even in the home they take many lives every day. In some cases undetected changes in a waste treatment system can put it out of adjustment sufficiently to cause a flash pollution discharge sufficient to sound the death knell for fish.

Natural causes cannot be stayed; eternal vigilance will greatly reduce occurrences which can result from human frailties.

There is still another consideration—and that is the hurdle yet to be made, before pollution from acid mine waters can be abated. The Mellon Institute of Industrial Research of the University of Pittsburgh, which, under a fellowship of the Sanitary Water Board is conducting research into this problem, recently reported, what has been previously generally accepted, that "although acid mine drainage can be chemically treated with lime or other alkalies to neutralize the acid, such a method is not practical or feasible because of the economic and other difficulties involved."

The report points out that:

> "The use of limestone or hydrated lime to neutralize acid mine drainage produces hard water.
>
> "A neutralizing treatment would be effective only if the plant were designed and staffed to treat the maximum seasonal flows and the sudden large fluctuations caused by natural conditions.
>
> "After completion of the mining, continuation of the treatment indefinitely would be required."

It is further pointed out that: "It is not believed that any operator would open a mine if required to treat the acid drainage as long as it might be produced. Many mines under observation today, still producing acid mine water, have been abandoned twenty-five years or more."

Nevertheless in spite of the desirability of cleaning up all streams of consequence the mining of coal cannot be stopped. Through continuing research under State grant at the Mellon Institute on the prevention of the formation of acid in coal mining, rather than the treatment of the waste waters after the acid has formed, it is hoped that an answer to this situation may be found.

That the use of the public waterways as a source through which to dispose of everything not wanted for any useful purpose, and the turning of those waterways into vile open sewers, must stop, is no longer a debatable question.

That it is possible to bring streams from a condition of filth and abuse to one of "respectability" with clean water flowing after it has been used, has been proved by what has been done under Pennsylvania's Clean Streams program.

That the streams in Pennsylvania, excepting for those impregnated with acid mine drainage, are being reclaimed, and that clean streams by and large in this State can become a reality, is assured by the accomplishments already recorded under that program which is being advanced in every area by the Sanitary Water Board.

Complete success for the Clean Streams program is dependent upon public support. There is no question but that the sportsmen's organizations will always be a forceful factor in maintaining that support.

THE FUTURE OF THE CHAIN PICKEREL

(*From Page* 11)

Wardens' reports then were forwarded to the Fisheries Research Laboratory at Bellefonte for statistical analysis. The results of this study were as follows:

1. Thirty-eight ponds and lakes in the leading pickerel counties were covered in the Warden's surveys.
2. Three hundred sixty legal pickerel were opened on the ice and their sex tallied.
3. Sixty per cent of the total, or 216 pickerel, were female.
4. Forty per cent of the total, or 144, were male.

The check proved one thing—that the proportion of female pickerel caught through the ice was not nearly as high as many anglers believed—was, in fact, considerably less than 75 per cent.

The tally of female pickerel taken by ice fishermen raised two interesting questions:

1. What is the natural sex ratio of these fish as they occur in nature?
2. What proportion of pickerel caught during the summer fishing season, opening July 1, are females?

The question of the natural sex ratio of the chain pickerel raises interesting possibilities. For example, if it should be determined that the chain pickerel population of the average lake or pond is 60 per cent female and 40 per cent male, then it would reasonably follow that more female than male pickerel would be caught by anglers. That, in turn, would answer the challenge of some sportsmen that ice fishing in time will doom pickerel angling in Pennsylvania. This, however, is pure speculation and is not the final answer based on hard facts which the technicians seek. It will take long and painstaking work to complete successfully just this phase of the whole investigation.

In regard to the question of the proportion of female pickerel taken in summer angling, there is a possibility that the ratio may be even higher than that of the ice fishermen's catches. The eggs are spawned long before the summer fishing season begins, and females are much less obvious than those taken through the ice when they are filled with roe.

Here, again, painstaking research is the only means which will provide conclusive facts. There are even more angles of the problem that must be considered before the Fish Commission can devise a workable management plan for the pickerel of Pennsylvania.

For example, it is possible that the former 12-inch legal size limit permitted the taking of too many pickerel before they had opportunity to spawn. The recent increase in the legal size to 15 inches should correct this situation. In addition, the chain pickerel evidently responds more readily to selective fishing than do must species. Thus, through selective fishing, the population may be lowered to the point where fishing results are no longer good.

The pickerel problem provides a major challenge to the Fish Management Unit. Stripped of scientific and technical terms, that challenge is for the devising of a program that will guarantee good homes for the pickerel and allow the fishermen to take his fair share without danger of depleting the population. And all this depends upon a continuing, thorough study to be made during the coming years, both in summer and winter, in which the Fish Commission and the anglers of Pennsylvania can cooperate to safeguard the future of the chain pickerel, one of our most popular game fishes.

Pennsylvania Fish Law Violations

Cases settled during the month of June, 1951

ALLEGHENY COUNTY

Cucchonie, Vincient, 5525 Kentucky Ave., Pittsburgh, Pa. Violation of the rules and regulations $20.00
Daub, James W., 5628 Elgin Ave., Pittsburgh 6, Pa. Fishing in a closed stream 25.00
Frazer, E. K., 625 Hope St., Pittsburgh 20, Pa. Fishing in a closed stream.. 25.00
Gill, Robert E., 559 Parker St., Verona, Pa. Fishing in a closed stream 25.00
Hissem, Thomas P., 632 Bellefonte St., Pittsburgh 32, Pa. Illegal operation of motor boat 10.00
Kern, Harry B., 458 Morrow Ave., Carnegie, Pa. Fishing without a license 25.00
Kuchnicki, Telesfor J., 136 S. 25th St., Pittsburgh 3, Pa. Fishing without a license 25.00
Mellett, John R., Box 75, Pittsburgh, Pa. Illegal operation of motor boat 25.00
Messner, George, 1607 Potomac Ave., Pittsburgh, Pa. Lending a license.. 25.00
Phillips, George L., 128 Lincoln Ave., Pittsburgh 18, Pa. Illegal operation of motor boat 5.00
Rubosky, Albert, 316 Commonwealth Ave., Duquesne, Pa. Fishing without a license 25.00
Williams, John, 6014 Hampton St., Pittsburgh 6, Pa. Fishing in a closed stream 25.00
Winters, Francis E., 1306 Sylvan Ave., Homestead, Pa. Fishing without a license 25.00

BEDFORD COUNTY

Ross, Joseph, Jr., c/o Barron Taxi Co., Bedford, Pa. Fishing without a license 25.00

BERKS COUNTY

Border, Chester J., 209 S. 12th St., Reading, Pa. Violation of the rules & regulations 20.00

BLAIR COUNTY

Benden, Edgar H., 3936 Oak Ave., Altoona, Pa. Fishing in a closed stream 25.00

BRADFORD COUNTY

Bassage, Albert W., 134 N. Elmira St., Athens, Pa. Illegal operation of motor boat 5.00
Benjamin, Freddie, R. D. No. 4, Towanda, Pa. Three tadpoles in closed season 30.00
Evans, Robert M., 413 S. Wilbur Ave., Sayre, Pa. Illegal operation of motor boat 5.00
Northurp, Ersten, R. D. No. 4, Towanda, Pa. Three tadpoles in closed season 30.00
Shroyer, Aaron, Canton St., Troy, Pa. One undersized trout 10.00

BUTLER COUNTY

Blackwell, Mrs. Clare, 313½ S. McKean St., Butler, Pa. Fishing in state hatchery 90.00
Schuller, Harry R., Box 104, West Winfield, Pa. Fishing in a closed stream 25.00

CAMBRIA COUNTY

Benewiat, J. P., 881 Tunnelhill St., Gallitzin, Pa. Fishing in a closed stream 25.00
Bohn, Roy, R. D. No. 2, Tyrone, Pa. Illegal device 20.00
Box, Paul, Mineral Point, Pa. Exceeding creel limit 40.00
Croft, James, 736 Smith Ave., Johnstown, Pa. Fishing in a closed stream 25.00
Edmiston, Wm., Belsano, Pa. Fishing in a closed stream 25.00
Gramling, G. A., R. D. No. 1, South Fork, Pa. Exceeding creel limit .. 10.00
Halleran, James, 723 Farren St., Portage, Pa. Violation of the rules & regulations 20.00
Havran, George L., 1443 Penn St., Nanty Glo, Pa. Exceeding creel limit 10.00
Kopchik, George, 442 Stone St., Johnstown, Pa. Exceeding creel limit .. 30.00
Poet, Theodore, Lloydell, Pa. Fishing without a license 25.00
Roberts, Lawrence W., 707 Menocher Blvd., Johnstown, Pa. Fishing without a license 25.00
Sherman, Simon L., R. F. D. No. 1, Mineral Point, Pa. Illegal device .. 20.00
Snyder, Fred, 427—19th St., Tyrone, Pa. Illegal device 20.00
Stevens, Elmer, Ebensburg, Pa. Fishing without a license 25.00
Zeile, Robert, Box 327, Windber, Pa. Failure to display motor boat license plates 5.00

CARBON COUNTY

Arner, Russel, 23 W. Holland St., Summit Hill, Pa. Exceeding creel limit 20.00
Christman, Linford E., Main St., Parryville, Pa. Illegal device 20.00

CLEARFIELD COUNTY

Dressler, Oscar L., 114 S. Stockdale St., DuBois, Pa. Fishing in a closed stream 25.00
Giles, Allen, R. D. No. 2, DuBois, Pa. Violation of the rules & regulations 20.00
Giles, Allen, R. D. No. 2, DuBois, Pa. Fishing without a license 25.00
Giles, Wm., R. D. No. 2, DuBois, Pa. Violation of the rules & regulations 20.00
Giles, Wm., R. D. No. 2, DuBois, Pa. Fishing without a license 25.00
Hoffman, Maurice, Ramey, Pa. Three undersized brook trout 30.00
Reitz, Lester, 15 E. Weber Ave., DuBois, Pa. Fishing in a closed stream 25.00

CLINTON COUNTY

Barkley, John R., Fourth St., Renovo, Pa. Fishing in a hatchery pond .. 100.00
Bauman, Sylvester R., 27 N. Grove St., Lock Haven, Pa. Fishing in a closed stream 25.00
Ericson, Paul F., 110 Clinton Ave., Renovo, Pa. Three undersized trout . 30.00
Ericson, Paul F., 110 Clinton Ave., Renovo, Pa. Exceeding creel limit ... 20.00
Williams, Taylor Z., 512 E. Water St., Lock Haven, Pa. Fishing in a closed stream 25.00

COLUMBIA COUNTY

Bennett, Horace D., Jr., 140 West St., Bloomsburg, Pa. Exceeding creel limit 40.00
Corullo, Ben, Berwick, Pa. Exceeding creel limit 10.00
Champi, Joe, 500 Front St., Berwick, Pa. Exceeding creel limit 10.00
Pitarra, Joe, 712 Center St., Berwick, Pa. Exceeding creel limit 10.00

CUMBERLAND COUNTY

Swartz, James, 7 S. High St., Newville, Pa. Exceeding creel limit 50.00
Yeingst, Earl, Allen, Pa. Exceeding creel limit 40.00

DAUPHIN COUNTY

Durborow, Earl, 243 Hummel St., Harrisburg, Pa. Violation of the rules & regulations 20.00
Hartman, Carl, Harrisburg, Pa. Illegal device 20.00

Neidig, Martin, 1116 Cloverly Rd., Harrisburg, Pa. Violation of the rules & regulations 20.00
Sterling, Edward J., 241 Hummel St., Harrisburg, Pa. Violation of the rules & regulations 20.00
Swailes, Howard, 1100 Cloverly Rd., Harrisburg, Pa. Violation of the rules & regulations 20.00

DELAWARE COUNTY

Hulkewicz, 118 Sherman St., Woodlyn, Pa. Illegal device 20.00

ELK COUNTY

Myers, Francis, 521 Clarion Ave., Johnsonburg, Pa. One undersized trout 10.00
Romanic, Andrew, Byrnedale, Pa. Fishing in a closed stream 25.00

ERIE COUNTY

Ash, L. S., 529 E. 13th St., Erie, Pa. Illegal devices 25.00
Revak, Wm. R., R. D. No. 2, Albion, Pa. Violation of the rules & regulations 20.00

FAYETTE COUNTY

McDonaugh, Peter J., 40 Chaffee St., Uniontown, Pa. Illegal operation of motor boat 10.00
Russell, George, Box 6, Lemont Furnace, Pa. One trout in closed season 10.00

FRANKLIN COUNTY

Gartside, Walter S., 373 W. Queen St., Chambersburg, Pa. Illegal device.. 20.00
Grugh, Guy L., Fort Loudon, Pa. Fishing in a closed stream 25.00
Nuckles, Robert A., 371 E. Queen St., Chambersburg, Pa. Fishing in a closed stream 25.00

HUNTINGDON COUNTY

Filson, James A., R. D. No. 1, Huntingdon, Pa. Failure to display license tags on motor boat 5.00
Hess, Wm., Three Springs, Pa. Violation of the rules & regulations 20.00
Watkin, Newton B., Three Springs, Pa. Violation of the rules & regulations 20.00

INDIANA COUNTY

Rudnick, Floyd, Boltz, Pa. Fishing without a license 25.00
Shuman, Wm. A., 223 Church St., Indiana, Pa. One undersized trout in restricted area 20.00
Spencer, Jack S., R. F. D. No. 1, Glen Campbell, Pa. Fishing without a license 25.00
Thomas, John W., 219 S. 11th St., Indiana, Pa. Three undersized trout 30.00
Woytek, Joe, Arcadia, Pa. Violation of rules & regulations 20.00
Zagrodnick, Wm., Box 77, Homer City, Pa. One bass in closed season 10.00

JUNIATA COUNTY

Schrlock, James, Jr., Academia, Pa. Fishing without a license 25.00

LANCASTER COUNTY

Spickler, John, 1615 Columbia Ave., Lancaster, Pa. Offering and exposing for sale striped bass less than 18 inches in length 30.00

LAWRENCE COUNTY

Good, Albert J., 400 1st Ave., Ellwood City, Pa. Failure to display license plates on motor boat 5.00
Shaner, Robert P., R. D. 1, Box 339, New Castle, Pa. Exceeding creel limit 20.00
Workman, James L., R. D. 1, Box 331, New Castle, Pa. Exceeding creel limit 20.00

LUZERNE COUNTY

Comitz, Joseph, 794 Main St., Sugar Notch, Pa. One bullfrog in closed season 10.00
Elczyna, Edmund, 97 Newport St., Glen Lyon, Pa. Exceeding creel limit 10.00
Hardisky, John, R. D. No. 3, Lincoln St., Dallas, Pa. Exceeding creel limit 10.00
Hoffman, Wilber, 43 Clincock St., Shickshinny, Pa. Exceeding creel limit 30.00
Kenney, Ann E., 33 Smith St., Wilkes-Barre, Pa. Fishing without a license 25.00
Poltanis, Zigmund, 78 Main St., Sugar Notch, Pa. Using a light at night to catch and take a bullfrog 25.00
Stash, Michael G., 122 Grove Ave., Exeter, Pa. Exceeding creel limit .. 10.00
Stout, Wm. H., 232 Park St., West Pittston, Pa. Exceeding creel limit 20.00
Weiskerger, Robert G., 605 Montgomery Ave., West Pittston, Pa. Exceeding creel limit 20.00

LYCOMING COUNTY

Lyons, Dayton R., R. D. No. 4, Muncy, Pa. Failure to display license plates on motor boat 5.00
Turner, Howard W., 357 Cherry St., Montoursville, Pa. Fishing in a closed stream 25.00

McKEAN COUNTY

Comes, Mary E., 263 W. Washington St., Bradford, Pa. One undersized trout 10.00
Eider, Delbert L., R. D. No. 1, Port Allegany, Pa. Interference with an officer 100.00
Engstrom, George E., 11 Clark St., Bradford, Pa. One undersized trout 10.00
Gardner, Kathryn G., Croydon, Pa. Fishing without a license 25.00
Halsinger, Charles W., 6 S. Center St., Bradford, Pa. One undersized trout 10.00
Mohney, Edison B., Kinzua, Pa. Two undersized trout 20.00
Pieroti, Louis M., 33½ Park Ave., Kane, Pa. One undersized trout .. 10.00
Reed, Robert A., Mt. Alton, Pa. Violation of the rules & regulations ... 20.00
Ross, George M., 19 South St., Smethport, Pa. One undersized trout 10.00
Woodard, George W., 111 William St., Bradford, Pa. Two undersized trout 20.00

MERCER COUNTY

Dellaria, J. F., 25 E. Main St., Grove City, Pa. Two undersized trout .. 20.00

MONROE COUNTY

Bush, Dilvan M., R. D. No. 2, East Stroudsburg, Pa. Exceeding creel limit 20.00

MONTGOMERY COUNTY

Matricardi, Raymond J., 639 Spring Mill Ave., Conshohocken, Pa. Fishing in a closed stream 25.00
Taylor, Orville, Lacey Park, Hatboro, Pa. Fishing without a license 25.00
Yarberry, Hollis C., Hart St., Lacey Park, Hatboro, Pa. Loaning a fishing license 25.00

MONTOUR COUNTY

Frye, Paul A., 425 Chambers St., Danville, Pa. Fishing in a closed stream 25.00
Stigerwalt, Edgar C., R. D. No. 4, Danville, Pa. Fishing in a closed stream 25.00

NORTHAMPTON COUNTY

Jones, Quay, Jr., Danielsville, Pa. Fishing in a closed stream 25.00
Sass, Paul, 335 Washington St., Walnutport, Pa. Exceeding creel limit 20.00
Snyder, A. Russell, 431 S. Main St., Nazareth, Pa. Line not under immediate control 20.00

NORTHUMBERLAND COUNTY

Gravino, Nick, 817 Market St., Sunbury, Pa. Failure to display license plates on motor boat 10.00
Landenberg, Robert F., 1139 Susquehanna Ave., Sunbury, Pa. Violation of the rules & regulations ... 20.00
Long, Harry M., 137 Lombard St., Sunbury, Pa. Fishing without a license 25.00

PERRY COUNTY

Myers, John, Loysville, Pa. Exceeding creel limit 10.00

PHILADELPHIA COUNTY

Davis, Willard, 1437 N. 13th St., Philadelphia, Pa. Loaning a fishing license 25.00
James, Lafayette, 1312 S. 47th St., Philadelphia, Pa. Violation of the rules & regulations 20.00
Trice, Edna, 1916 N. Darien St., Philadelphia, Pa. Fishing without a license 25.00

POTTER COUNTY

Chase, Dave, Austin, Pa. Fishing in a closed stream 25.00
Chilson, Lloyd O., 306 S. Main St., Coudersport, Pa. One undersized trout 10.00
Wynick, Kenneth J., R. D. No. 1, Harrison Valley, Pa. Fishing on private land on Sunday without permission of landowner 25.00

SCHUYLKILL COUNTY

Shappel, Frances, 617 Harrison St., Pottsville, Pa. Illegal device 20.00

SNYDER COUNTY

Stroup, Charles, R. D. No. 2, Port Trevorton, Pa. Illegal operation of motor boat 10.00

SOMERSET COUNTY

Chelednik, Mike, Rockingham, Pa. Violation of the rules & regulations 20.00
Frazenbaker, Carl, R. D. No. 3, Confluence, Pa. Fishing without a license 25.00
Mateskey, John, Acosta, Pa. Fishing without a license 25.00
Wolford, Calvin, Holsopple, Pa. Violation of the rules & regulations 20.00

SULLIVAN COUNTY

Snell, George, R. D., Dushore, Pa. Illegal operation of motor boat 25.00

SUSQUEHANNA COUNTY

Quackenbush, Stephen, Jr., R. D. No. 2, Springville, Pa. Illegal operation of motorboat 10.00

TIOGA COUNTY

Cuda, Lawrence E., Liberty, Pa. Fishing in a closed season 25.00
Miller, LaRue B., Star Route, Liberty, Pa. Fishing in a closed stream 25.00
Yungwirth, Wenzel, R. D. No. 3, Wellsboro, Pa. Violation of the rules & regulations 20.00

UNION COUNTY

Dunkleberger, K. E., Mifflinburg, Pa. One undersized trout 10.00
Wolford, John I., R. D. No. 1, Milton, Pa. Fishing in a closed stream ... 25.00

VENANGO COUNTY

Cotterman, R. J., Hasson Heights, Oil City, Pa. Illegal operation of motor boat 10.00

WARREN COUNTY

Putnam, Mrs. Jessie, Box 513, Warren, Pa. Fishing on hatchery property.. 100.00

WASHINGTON COUNTY

Boll, Arthur, 115 Richland Ave., Canonsburg, Pa. Violation of the rules & regulations 20.00
Cantaral, James M., 1104 Maple Terrace, Washington, Pa. Illegal operation of motor boat 10.00
Custer, Mrs. Harry, 109 Murdock St., Canonsburg, Pa. Fishing without a license 25.00

WAYNE COUNTY

Obelscavage, John, R. D., Waymart, Pa. Fishing on hatchery property.. 100.00

WESTMORELAND COUNTY

Gueher, James L., Gen. Del., Derry, Pa. Violation of the rules & regulations 20.00
Sequiti, Frank, 1116 Martin Ave., New Kensington, Pa. Fishing in a closed stream 25.00
Sequiti, Pete, 1115 Martin Ave., New Kensington, Pa. Fishing in a closed stream 25.00
Zeitner, Donald, R. D. No. 1, Latrobe, Pa. Violation of the rules & regulations 20.00

WYOMING COUNTY

Thomas, Albert, R. D. No. 2, Dalton, Pa. Exceeding creel limit 10.00
Thomas, Eugene, Sr., R. D. No. 2, Dalton, Pa. Exceeding creel limit 10.00

YORK COUNTY

Busch, Franklin C., 333 Norway St., York, Pa. Violation of the rules & regulations 20.00
Herman, Robert M., 716 S. Queen St., York, Pa. Failure to display license plates on motor boat 10.00
Slonaker, John E., 68 W. Boundry Ave., York, Pa. Exceeding creel limit 30.00
Snell, Raymond, 163 Woodland Ave., York, Pa. Failure to display license plates on motor boat 5.00

OUT OF STATE

Forester, Edwin A., 157 Elm St., Elizabeth, N. J. Fishing without a license 25.00
Tuppeny, Frank W., Jr., 38 Hampton Court, Maywood, N. J. Fishing without a license 25.00
Tuppeny, Ruth C., 38 Hampton Court, Maywood, N. J. Fishing without a license 25.00
Karpa, Karl, 5110—19th Ave., Brooklyn, N. Y. Fishing without a license 25.00
Zylowski, Stanley, 291 E. 143 St., Bronx 51, N. Y. Fishing without a license 25.00
Cottrell, Milford J., 49 Broadmore Ave., Bedford, Ohio. Fishing without a license 25.00
Taylor, James, 114 S. Market St., Girard, Ohio. Operating a motor boat without a license 25.00

VACATION PAGE +

By CARSTEN AHRENS

Let's Become Entomologists

August is a good month to start an insect collection. Insect collecting makes a good hobby for insects are everywhere, and when the weather is warm, these animals are most active. It isn't necessary to travel to far off places, for hundreds of insects visit your yard and garden, and a little looking will train your eyes to see them. Dr. Lutz, in his book "A Lot of Insects," tells of discovering over 1400 species of insects in his back yard. Dr. Lutz is a famous American entomologist. By now, you've guessed what an entomologist is.

By the Number of Their Legs!

More animals have 6 legs than another number. Snakes have none, birds have two, cats have four, insects have six, spiders have eight, and so on until you get to a species of centipede that has 125 pairs. There are more than a million species of living things on earth, and over half of these are insects. No other group of animals does man find as troublesome. Insects such as the Jap beetle, cotton boll weevil, corn borer, and the gypsy moth cost us millions of dollars yearly. On the other hand, our peach, apple, cherry, and plum orchards would be without fruit if the honey bees didn't distribute pollen. Red clover would disappear if the bumble bee disappeared. So the six-leggers are pests and blessings; we can't get along with them or without them.

Collecting Materials

Anything needed for an insect collection is easily made. One should have a net, a killing jar, insect pins, spreading board, data slips, and a box for the permanent collection.

You can buy a collapsible net, or you can make one from a broom handle, a wire hoop, and a piece of mosquito netting.

The killing bottle is any large-mouthed bottle with a tight lid. In the bottom a wad of cloth dampened with gasoline or carbon tetrachloride (dry cleaning fluid) may be used. When you're older a cyanide killing jar is very convenient, but they're deadly, so dangerous.

Use regular insect pins if possible. These come in many sizes, are inexpensive, and will not rust.

A spreading board is essential for drying insects to make them appear natural. It is a "must" for collections of dragonflies, butterflies, and moths.

Always keep records of your specimens. Have on the data tags at least the date and place of capture. Later you will add the name of the species, its sex, and your name as collector.

The box for your pinned specimens may be just a cigar box with a sheet of cork or corrugated paper to make pinning the specimens easy. Always keep some moth crystals in with your specimens to repel insect pests.

The Orders of Insects

In making your collection, you can collect species of just one order, or you may include insects of all the orders you meet. Some people collect just butterflies, or beetles, or dragonflies. Others collect and preserve everything they net. We have 8 big, common orders in our state:

1. The dragonflies and damselflies
2. The grasshoppers, crickets, katydids, etc.
3. The cicadas, plant lice, etc.
4. The true bugs
5. The beetles
6. The moths and butterflies
7. The flies and mosquitoes
8. The bees, ants, wasps, hornets, etc.

And there are many other smaller orders such as the termites, mayflies, etc. Don't worry about classifying your insects; with so many beautifully illustrated insect books available, identification of your prizes will not be difficult.

Metamorphosis

Insects are different from most animals in that their lives are divided into stages. A grasshopper begins life as an egg that is buried in the ground. There it spends the winter. The egg hatches and a tiny grasshopper, called the nymph, works its way to the surface. Repeatedly it splits its old skin down the back and crawls out, a slightly bigger hopper. This goes on until it becomes an adult. This is *incomplete metamorphosis.* The little hopper is much like the adult hopper all along except that it has wing pads instead of wings.

The butterfly also begins life as an egg that has been placed on the food plant by the parent. From the egg hatches a caterpillar that is ready to eat as much as 8 times its own weight each day. It has chewing mouth parts. When it is big and fat, it spins a cocoon and rests. This stage often lasts over winter. Out of the cocoon comes the lovely butterfly that is completely unlike the wormlike caterpillar it used to be. Since it now has a coiled tube for drinking nectar, it no longer chews up leaves. These 4 stages: egg, caterpillar, cocoon, and adult are called *complete metamorphosis.*

Watch your enthusiasm when it comes to killing insects wholesale. Science has produced such amazing insecticides that there can be no doubt that we shall be successful in controlling insects. There's a danger that we'll be overly successful! Poisons do not discriminate between good and bad insects. When large areas are treated with poison spray, dust, or meal, the beneficial as well as the harmful are destroyed.

Two Bills swap beetles at South Hills High—Photo by Melvin Rudov.

PENNSYLVANIA Angler

SEPTEMBER

1951

P 38.31
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How's Luck?

Might as Well Fish in a Bath-tub Huh?

Do You Read the PENNSYLVANIA ANGLER

NO? Well, Sir, *THERE'S YOUR TROUBLE!*

Don't you know that for less than a nickel, five cents, per issue you can learn how, when and where to fish . . . NOT in Timbuctoo . . . but in the well stocked waters of our good old Keystone state, right around home!

SOLD? OK, now get that dollar bill out of your pocket, wrap it around the subscription blank on page 23 and send it in right now. TWENTY-FOUR (24) issues of the finest value in fishing magazines you ever received will immediately be coming your way.

AND THEN . . . . GOOD LUCK!

COMMONWEALTH OF PENNSYLVANIA

HON. JOHN S. FINE
GOVERNOR

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PENNSYLVANIA Angler

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SEPTEMBER—1951 VOLUME XX, No. 9

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The Cover . . . LAST FLING at the finny customers before the first school bell calls all young fellows away from the old fishin' hole back to readin', writin' and arithmetic. And so it's farewell to another grand summer filled with lazy, carefree days that linger long in the memories of youth.

—Photo by Robert A. Young, Sr.

George W. Forrest, Editor 1339 East Philadelphia Street, York, Pa.

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From the Editor's Angle

The ANGLER always appreciates getting letters from the readers especially when they write and tell us what they want in articles, features and stories. If you have something special you want included in future issues of the magazine write to the editor.

Dear Sir:

This evening I read your magazine from cover to cover (July), and I don't ever remember having enjoyed any magazine as much. My blood is practically boiling with the desire to get out on the river in the morning.

So if my reaction is anything like I believe every Pennsylvania fisherman's will be, your magazine will be a whopping success.

Clair A. Grove

Red Lion, Pa.

Mr. Editor:

Congratulations on the July issue. Read every page with interest. Keep them coming that way.

Enjoyed reading "Doc Henshall and the Black Bass" by Jim Hayes, also "Big Water for Big Bass" by John Alden Knight. I have fished many times over the waters referred to as the "Flat" or "Level" above Wyalusing.

Mr. Knight was on the right track in using artificials in the North branch of the Susquehanna. Fishing this river for the past 18 years I am strictly an artificial man. But there are days and reasons when the artificial man will take his hat off to the live bait fisherman.

George T. Sutton

Wyoming, Pa.

Dear Editor:

The July issue was the best I have received since subscribing to your publication.

Hope there will be more articles like, "Spawning Habits of the Bass," "Fish Gills," and "Some Fish Grow Horns." In other words, more technical articles.

H. F. Padenfus

Chicago, Ill.

Dear Sir:

I should like to take this opportunity to express my appreciation for the fine job which the ANGLER is doing each month. The ANGLER takes preference in all my piscatorial reading. Incidentally, how about something on Montgomery county! There is a fair amount of fishing done here too.

Gerald F. Hartzel

Lansdale, Pa.

Dear Editor:

I sure enjoyed the last issue. The articles were all very interesting. The article, "Search For A New Trout Stream" was especially interesting.

Harry A. Johnson

Pittsburgh, Pa.

Dear Editor:

May I extend hearty congratulations on the new and better ANGLER. It is the biggest and best fifty cents value that can be purchased today. Keep up the good work.

Donald S. Reichard

York, Pa.

Dear Editor:

Congratulations on your splendid magazine especially the new type of cover.

I have enjoyed the same Pennsylvania ANGLER quite some time and it is a relief to find at least one sporting magazine that has not gone overboard and filled with commercial advertisements.

I look forward to receiving same every month . . . well, I could go on raving about it but will just say . . . "keep her the way she is!" If cost of printing and paper, etc., forces the price up a little, I am sure we subscribers will always find enough money to pay for it as I truly believe it is the best investment today.

With all good wishes to everyone connected with publishing this fine magazine.

Percy A. Hall

Lancaster, Pa.

Dear Editor:

Congratulations . . . we like the new ANGLER very much. I am sure your new draperies will impress the women of the house enough for them to take a good look inside the cover. It is a big improvement over the old ANGLER.

Tackle Tips in the June issue for a practical line dryer may be a little complicated for those who are not handy with a saw and hammer. My son uses a wire coat hanger and reshapes it with a pliers . . . always carries several in the car and winds the lines as soon as he was finished fishing.

Anyone can use a pliers to make several of these line dryers to carry with their fishing equipment. Good luck and hope to read more about spinning for trout and bass.

Helen Anderson

Scranton, Pa.

To the Editor:

Congratulations on the new ANGLER. It is better than ever and I am happy to see it grow bigger and better.

Harold Robinson

Palmyra, Pa.

WHAT . . . IN 1598 TOO?

Fishing, if I, a fisher protest,
Of pleasures is sweetest, of sports the best,
Of exercises the most excellent,
Of recreation the most innocent;
But now the sport is marred, and wot ye why?
Fishes decrease, and fishers multiply.

Written by
Thomas Bastian
in the year 1598

Joe Barkley, Veep of the Pa. Federation of Sportsmen's Clubs sends in this pix of Mr. and Mrs. C. H. DeFibaugh of Summerville, Jefferson county. Joe claims this doesn't tell the true story about the "Pres" of the Jefferson County Sportmen's Assoc., because CH usually catches his share, returns most to the water, a true sportsman. Mrs. DeFibaugh doesn't seem too disappointed about the empty frying pan.

U. S. GEOLOGICAL STREAM SURVEY MAPS

The editor has been deluged with requests for stream maps as mentioned in the July issue, article, "Search For A New Trout Stream," by Don Shiner.

A letter, in part, from Washington addressed to Mr. Shiner should give all the information necessary:

"In your article, please explain that the topographic quadrangle maps are sold at 20 cents a copy by the Geological Survey. An index showing them will be supplied free upon request to:"

Jule E. Andre, Chief of Distribution
United States Department of the Interior
Geological Survey
Washington 25, D.C.

We are happy to be receiving nice letters from our readers from all over the nation. We thank the writers of the letters published on these pages for their kind interest in the new ANGLER.

Dear Sir:

Received my July issue of The ANGLER. Want to tell you what a fine magazine it is. My home is in McKees Rocks near Pittsburgh but have been in Washington (state) for little over a year. My favorite stream was Scrubgrass creek in Venango county. Took the best catch of trout I ever made there on opening day in 1949.

My brother has been doing good there this year. Outside of the steelhead, I believe Pennsylvania streams produce nicer trout than the Washington waters. I guess it is due to the good stocking job done by the Fish Commission.

The fishing pressure here is not near so heavy as in Pennsylvania streams. The rainbow and cutthroat are the main fish with the brook and Dolly Varden last. A few streams have browns but they are not very well liked by sportsmen. The lower Yakima river near Richland has fairly good smallmouth bass fishing. Three pounders are taken there.

I have a friend from Pittsburgh living near Yakima who took his first salmon, a 29-incher, in the Yakima river this year. Last summer in the American river near Mt. Rainier, we saw several large chinook salmon spawning. Some would go up to 36 inches.

Indians take quite a few salmon at Prosser and Sunnyside dams on the Yakima by nets and spearing. Only the Indians are allowed to fish this way. I hope this gives you a little information on Evergreen state fishing. Enjoyed the story on Slippery Rock creek last month very much. Sure is a fine magazine and I enjoy reading it very much.

Edward F. Naughton

Richland, Wash.

Don't Read This One

Didn't you notice the heading on this paragraph? Didn't you see that you were to skip this? Then why on earth do you go on reading this? We assure you that you'll get nothing out of this paragraph, and that, if you haven't stopped you are only wasting your time. If you have any character at all, this is the time to stop. Didn't you understand? Stop! Now we are halfway through the paragraph and you're still going on. You just can't stop reading the next line, or can you? You can't and we were right. What are you getting out of it? Nothing, yet you go on and on. You're wasting your time by reading these last words. Aren't you?

The Editor:

Enclosed you will find a copy of a poem I have composed for my father in Pennsylvania. I sent this to him on Father's Day of this year.

I was born in Pennsylvania and spent my childhood and a good part of my life there. After living in this desert region where in many sections there isn't even a tree, my mind wanders back to the hills and streams of Pennsylvania; and of course, to my father still living in Tioga, and has a hunting lodge at Leetonia on Cedar Run. This was the background of my poem.

If you could at some time see fit to print this in the ANGLER, I would feel that one of my great ambitions, which is to honor my father in public, had been accomplished.

Here is my renewal check for year's subscription.

H. E. Deming

Tucson, Arizona

Here's Mr. Deming's poem in honor of his father . . .

A MAN'S CALL

The mountains and the woodlands,
  The rivers and the streams,
Have a certain kind of calling
  To some of us, it seems.
Each jagged peak and valley
  Have a special kind of call,
Which to me brings back the memory
  Of a man who knew them all.
He was every inch a woodsman,
  And with rod and gun alike
Could rove those stately mountains
  In the day or by the night.
When a boy, I would always follow
  His foot prints in the snow,
For they led me through a beauty
  That only man would know.
There were other foot prints round us
  Which he pointed out with pride,
And told me just what made them,
  He was like an Indian guide.
As we struggled through a thicket
  Or topped a wooded knoll,
He would caution me to listen,
  For game was on the stroll.
I had my firearm lessons,
  His efforts never ended.
He taught me how to use a gun
  For what it was intended.
I watched when he brought his gun
  To shoulder with lightening speed,
I watched his eyes follow the game,
  And when he drew a bead.
I watched the recoil from his gun,
  And the stern look on his face,
For he knew he had hit the target
  To end another chase.
Come fishing in the spring time,
  Our hearts were high and gay,
We took off to the mountains
  To spend another day.
He taught me how to throw a fly,
  And where the fish would feed;
He gave me hooks and tackle
  And every thing I'd need.
We'd fish throughout the summer,
  Until fall was in the air;
You never could find two people
  To beat this roving pair.
Now the years have piled upon us,
  We have drifted far apart,
But I know we're still together
  Even though it's just in heart.
He is still an ardent sportsman
  Though he travels now alone,
And I'll bet he often wishes
  That his wandering boy'd come home.
Well, the world is full of heartaches
  Which are meant for us to bear.
But we cannot read the future,
  If we could, we wouldn't care.
Some day I am looking forward,
  A reunion to be had,
With this man who is my Father,
  But is better known as "Dad."

To the Editor:

Enclosed is a picture taken in the early Spring this year of Barry Fultz, aged 8 years, holding a 13½-inch sucker. He is an ardent fisherman, recently caught a 16-inch sucker and another 12½ inches. I should like so much to have you print the picture in the ANGLER. I told him I would send the picture to you.

He is the son of Grover Fultz of Beech Creek, R.D. In the picture are his older sister and younger brother. The fish was caught in Bald Eagle creek near his home.

Mrs. W. A. Clark

Lock Haven, Pa.

Dear Editor:

It happened twice in my lifetime.

On April 19th while plug fishing on Lake Helen, the water was rough, my boat drifted to shore and while I was making a shore line cast, an 18½-inch, three-pound bass jumped into my boat. Again on July 31st, I had just started to push my boat away from shore to go trolling when a 15-inch bass jumped into the boat.

I think this is quite unusual to happen to one person in such a short period of time.

I am a former Pennsylvanian. I retired to Florida five years ago and I am always anxiously looking for the ANGLER.

G. P. Johns

Lake Helen, Florida

Dear Editor:

Your June issue is a splendid job.

Herman Wolff

Easton, Pa.

A PRAYER

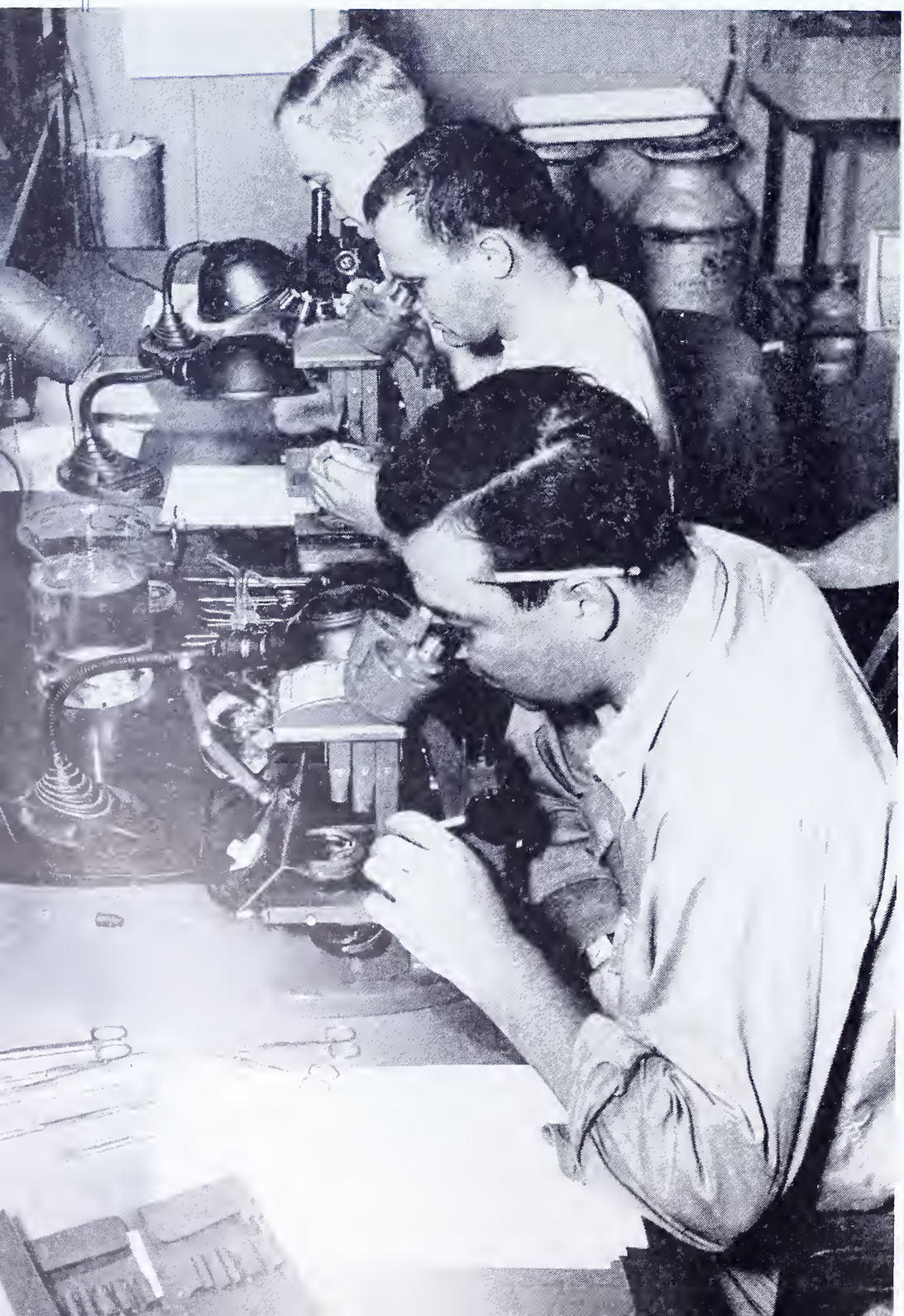
Dear Lord
Lest I continue
My complacent way;
Help me to remember
Somewhere out there
A man died for me today.
As long as there must be war;
I then must
Ask and answer
Am I worth dying for?

—THE ROTARIAN

Pennsylvania Department of Health
and
Pennsylvania Fish Commission

Crusade for Clean Streams

By Richard F. Williamson



AN IMPORTANT phase of the crusade for clean streams in the State of Pennsylvania is developing in the Fisheries Research Laboratory of the Pennsylvania Fish Commission at Bellefonte through the cooperation of the Fish Commission and the Pennsylvania Department of Health.

It is an effort to determine the effects of industrial wastes of all kinds on the body tissues of fish and to chart the physical reactions of fish to all types of toxicants which cause pollution of streams, lakes, and ponds.

When the work is completed, the data assembled will serve two important purposes:

1. It will serve as a scientific guide for use by the Sanitary Water Board in fixing stream standards and in controlling discharge of industrial wastes into public waters.
2. It will provide scientific evidence for use in detection and prosecution of cases of willful pollution.

Thomas Iezzi, sanitary engineer on the staff of the Department of Health, is conducting the research project. The modern facilities and equipment of the Fisheries Research Laboratory have been placed at his disposal, and members of the laboratory staff are assisting in the work in numerous ways.

Cases of stream pollution are complex and difficult. The outward evidence is simple enough, since it consists of the presence of dead fish in the water. But the cause of the fish killing is by no means so easily determined.

For purposes of illustration, let us suppose that a fish killing has occurred in Creek B. This particular stream is about 25 miles in length, and along its course are a number of large industrial plants and several towns.

The problem is to determine which one of these plants or communities was the source of the pollution.

As a matter of record, the vast majority of pollution cases eventually are solved, penalties are imposed upon those who are responsible, and steps are taken to prevent future pollution. But all of this involves tedious and costly investigation.

←

Miscroscopic examination of fish which were subject to a lethal condition.

Here is where the research now in progress at Bellefonte enters the picture.

Most types of toxicants injurious to aquatic life are known to scientists. The data now being assembled will record the effects each one of these toxicants has on the body tissues of fish and also what reactions it produces in living fish.

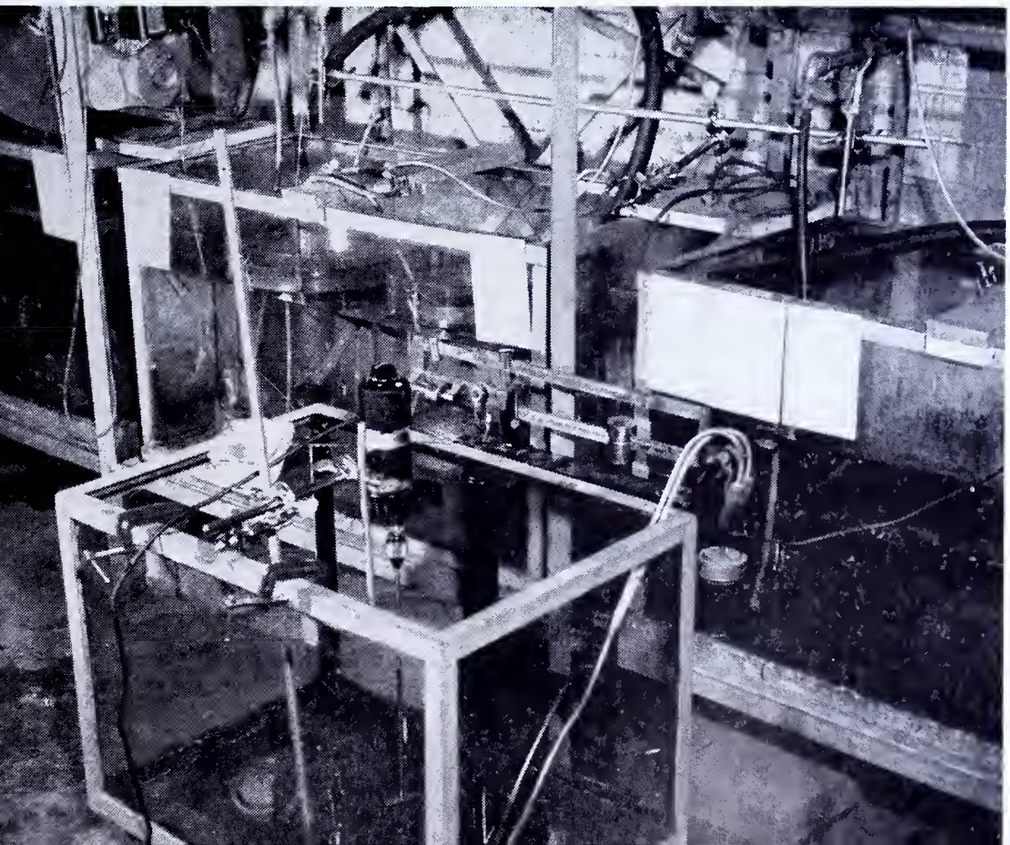
With such information available, examination of the body tissues of a fish killed by pollution will assist in revealing the type of toxicant responsible. On the basis of this information, the search for the source is narrowed down immediately.

What is more, it is felt that any court in Pennsylvania will accept as legal supporting evidence such scientific facts as could thus be presented in prosecution of a polluter.

There is another side of the picture. It is this: That pollution is not the only cause of fish killings. Dynamiting of a stream can cause wholesale destruction of aquatic life of all kinds. Diseases also take their toll of fish life.

Much already is known, of course, about various disease symptoms which may be observed in the body tissues of fish. This knowledge obviously fits into the whole pattern of the study of the causes of destruction of aquatic life.

Small fish of the so-called pan-



↑ Experimental set-up to simulate hot condenser water discharges in the study of the effects of temperature rises upon fish.

← A portion of the experimental aquarium set-up.

fish species are the guinea pigs on which Mr. Iezzi is working in the Fisheries Research Laboratory.

The test fish are confined in tanks of water into which synthetic industrial wastes are placed in increased quantities until the fish are killed. In the process the reactions of the fish are carefully observed and recorded, the proportion of the toxicant in the water is meticulously charted, and once the fish is dead a minute examination of its body tissues is made to determine effects of the toxicant upon them.

The list of toxicants is long and complicated. The process is being repeated with each one of them—done again and again, if necessary, until all possibility of error or miscalculation has been eliminated.

At the beginning of this article it was explained that the data not only will enable the authorities to trace all cases of pollution to their source, but that it also will be of great value to the Sanitary Water Board.

One of the responsibilities of this board is to regulate the discharge of industrial waste into public waters. Results of the experiments at Bellefonte will serve as a scientific guide in determining what degree of treatment of such wastes is necessary before they can be released without endangering aquatic life.

The role of the scientist in the crusade against pollution is illustrated in the case of a number of serious fish killings which occurred during the summer of 1949 in Tulpehocken Creek, below its confluence with Mill Creek, in Lebanon County. The probable cause of the killings was determined to be leaks into Mill Creek through the walls of lagoons used for the treatment of wastes from a ferromanganese blast furnace.

Although sufficient cyanide was found in the tissues of fish collected from the killings to account for the cause of death, no significant amount of free cyanide could be found in either the seepage from the lagoons or in the water samples collected from Tulpehocken Creek at points where killings had occurred.

However, appreciable amounts of ferro- and ferricyanides were found in the seepage and also in the heavy deposit of silt on the bottom of the creek. In themselves, these two elements are not particularly toxic.

At the same time, residents of the area reported that fish killings always occurred in the middle of bright, sunny days.

Personnel at work on the problem suspected that action of ultraviolet light (of the sun) on the complex cyanides had caused the killings.

Scene of the investigation then shifted to the Fisheries Research Laboratory.

As the first step, sunfish were placed in a solution containing a controlled portion of the cyanides—and all of the fish were still alive and healthy after 75 hours.

The next step was to expose the fish in the cyanide solution to the light of 100-watt ultraviolet lamps.

Within 17 minutes the fish were obviously in distress, and all of them were dead within one hour.

Some experiments of this nature were performed outdoors, in sunlight, and similar results were observed.

The findings were put to a practical use. The treatment of waste

(*Turn to page* 27)

Some of the laboratory equipment used in conducting the research project.

INDEX TO ANGLER ARTICLES

OCTOBER 1950
THROUGH
SEPTEMBER 1951

For the convenience of ANGLER readers we have prepared an index to all articles published in the PENNSYLVANIA ANGLER in the October 1950 through the September 1951 issues. The index is shown on Pages 31 and 32 of this issue and should prove valuable to those wishing reference data on articles that have appeared over the period specified. The index gives authors and titles of articles with page numbers and the issue in which the article or articles appeared. Readers are urged to keep their back issues of the ANGLER and especially this issue for reference purposes.

Bacteria Factor In Fish Growth Studied

Today it is generally recognized that a great aid in the proper nutrition of human beings and high forms of animals is the presence of certain types of bacteria in the intestinal tract.

Now technicians of the Pennsylvania Fish Commission are seeking to learn if the same principle applies to fish. To this end they are engaged in experiments in the Fisheries Research Laboratory at Bellefonte.

For convenience, intestinal bacteria can be divided into two groups—those that are beneficial and manufacture vitamins necessary for the body activities, and those that are harmful and that retard the normal functions or take vitamins away from the digestive tract.

Science, in the control of human diseases, has discovered drugs called antibiotics, some of which destroy harmful bacteria in the digestive tract.

Until recently, companies manufacturing antibiotics for human consumption discarded materials from which antibiotics had been extracted. Now it has been found that after the extraction process enough of these helpful elements remain in the waste material to control the undesirable intestinal bacteria in certain domestic animals.

Because of the satisfactory results of use of this by-product in promoting more rapid growth in domestic animals—with special reference to hogs and poultry—preliminary tests are being conducted by Pennsylvania Fish Commission technicians to determine the effects of these antibiotics on trout growth when introduced into food given the fish.—*C. R. Buller, chief fish culturist, Pennsylvania Fish Commission.*

FISH PERFUMES NOTHING NEW

The old phrase . . . "there's nothing new" holds fairly well in the matter of using perfumed oils for anointing baits to make them more attractive to fish. (See article, "Black Magic Fishing" in the August issue of the ANGLER).

Izaak Walton, in his classic, "The Compleat Angler" writes . . . "And I have been told lately, by one of his most intimate and secret friends, that the box in which he put those worms were anointed with a drop, or two or three, of the oil of ivy-berries, made by expression or infusion; and told, that by the worms remaining in that box an hour, or a like time, they had incorporated a kind of smell that was irrestibly attractive, enough to force any fish within the smell of them to bite.

This I heard not long since from a friend, but have not tried it; yet I grant it probable, and refer my reader to Sir Francis Bacon's, 'Natural History,' where he proves fishes may hear, and, doubtless, can more probably smell; and I am certain Gesner says the Otter can smell in the water, and I know not but that fish may do so too.

I shall impart two other experiments, but not tried by myself, which I will deliver in the same words that they were given me by an excellent angler and a very good friend, in writing: he told me the latter was too good to be told, but in a learned language, lest it should be made common.

'Take the stinking oil drawn out of Polypody of the oak by a retort, mixed with turpentine and hive-honey, and anoint your bait therewith, and it will doubtless draw the fish to it.'

'Tis supremely sweet to any fish and yet assafoetida may do the like. But in these things I have no great faith, yet grant it probable."

HERE'S WHY THEY'RE CALLED LARGEMOUTHS

State Fish Warden G. Max Noll of Montrose, Pa., said one day last week Howard Norris also of Montrose met him on the street and declared he had something he wanted Warden Noll to examine.

Norris showed what he had removed from the stomach of a 17-inch largemouth bass that he had caught the night before in Montrose Lake about ten o'clock on a deep-running plug. It was a young muskrat about five inches long and fairly fresh. The body had started to digest but the head, feet and tail, fur remained to plainly identify the creature.

Several men, including Game Protector Clouser, had also witnessed the muskrat take his last swim. One old wag wanted to know if it were OK to use muskrats as bait.

PARADISE MANAGEMENT

The above illustration pictures Arthur S. Snyder on the left and Jacob Knisley on the right huddled over a subject in the course of the Fisherman's Paradise Season near Bellefonte. These two men have been in charge of the Paradise since its inception back in 1934. Art and Jake are widely known to the thousands upon thousands of fishermen who have visited the Project and are held in high esteem for their gentlemanly manner and courtesy with which they conduct their service. Mr. Snyder is now confined to the Evangelical Hospital at Lewisburg and THE PENNSYLVANIA ANGLER joins his host of friends in best wishes and hopes for a speedy recovery.

Good Fishin' Stream?

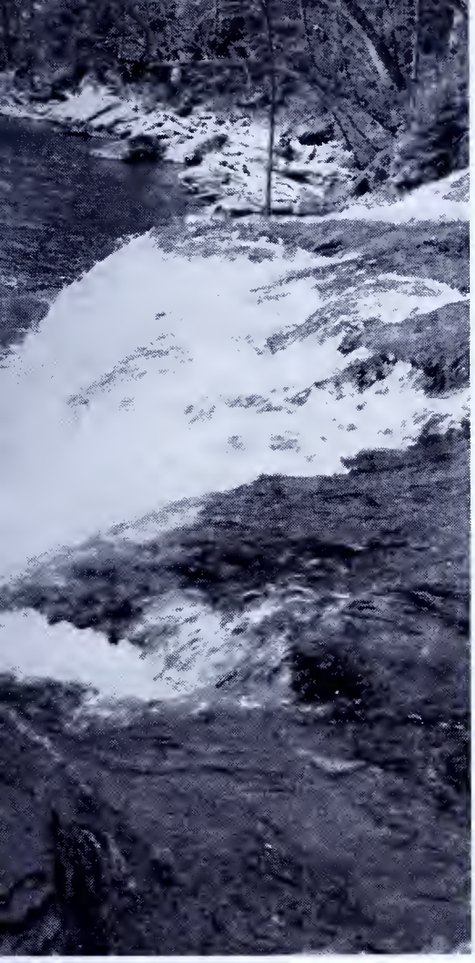
By EDWARD F. WESTLAKE, JR.
Assistant Aquatic Biologist

Here is what appears to be an excellent fishing stream, but the Pennsylvania Fish Commission does not use superficial appearance as the only factor in its management program. Series of pictures illustrates steps taken by a biologist to determine the true condition of a stream.

—Photos by George Gordon—Official Photographer
Pennsylvania Fish Commission.

Waterfalls are great public attractio
on any stream. They are listed a
"Points of Interest" in the survey.

All dams must be plotted in the survey.



Good fishing waters are usually made up of riffles, shade, and pools. An index number is determined by the survey to show whether the stream is good, fair, or poor in this respect.

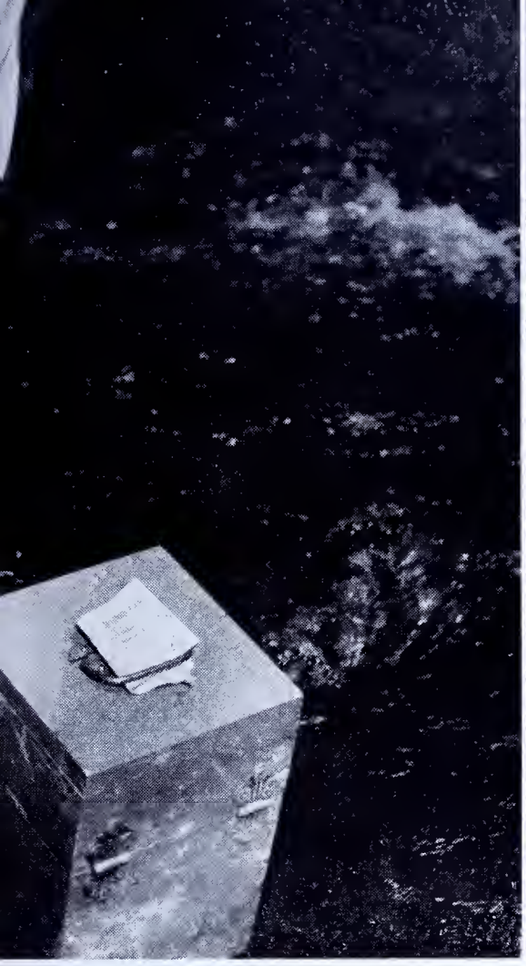
"No Trespassing" is listed.

Determining the water volume a stream is carrying with the Gurley Current Meter.

Collecting water samples for chemical analysis. Analysis is made in research laboratories of the Fish Commission.

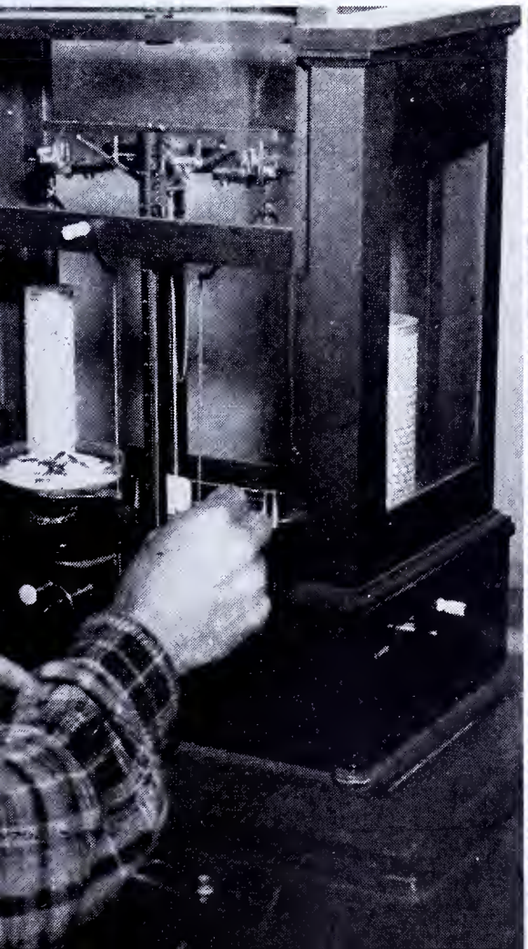
Recording the temperature of the water.

A collection of fish food insects found in and on the stream bottom.



Collecting bottom food organisms with the Surber Sampler.

After the bottom sample of food organisms is dried in the laboratory oven overnight, it is weighed to determine an index to quantity of food available to fish.



Seining stream to see what fish are present.

Mr. C. R. Buller, Chief Fish Culturist of the Pennsylvania Fish Commission, discussing a stream report with his investigators in preparation for setting up a policy of management for the stream.

Variety of minnows found in the stream being surveyed.

American Fishing Books

By Charles M. Wetzel

(Conclusion)

The Pennsylvania Angler has been proud to present this fine work by Mr. Wetzel, a work that will prove more valuable as years pass along. We know of no finer reference book as an index to all-time American angling literature.

WOOD plugs made their appearance about the same time as the automobile, or perhaps slightly earlier. As to their origin, considerable differences of opinion exist. V. B. Gray, outdoor writer for the *Cleveland Plain Dealer* believes as follows:

Dr. John A. Roach, of Alliance, Ohio, an inveterate fisherman, conceived the idea that bass would take a wooden painted lure. With his pocket knife he fashioned from his wife's broom handle a plug made with fluted grooves in front. After painting it white with red stripes in the grooves, he attached two gangs of three books each, one below, the other at the rear. Dr. Roach took this to the Portage chain of lakes outside Akron, Ohio, and took so many bass with it that news of his invention spread to the Pfleuger's Enterprise Manufacturing Company. Of the brothers who operated the firm, Joe Pfleuger was the experimenter in charge of new tackle being worked out. Joe contacted Dr. Roach and went fishing with him on the Portage lakes. Joe caught bass after bass. The outcome was that Dr. Roach allowed the Pfleuger's to improve and market his invention.

In response to an inquiry concerning the year in which the Pfleugers made this first wood plug, C. T. Poole, Advertising Manager of the Enterprise Manufacturing Company, advises that:

"I have been doing some checking and dating back through the records and have found that our first plug bait was made in 1881. This was in the form of a hollow glass minnow mounted with single and treble hooks at the tail, and spinner at the head. The minnow was filled with a luminous material, which made it attractive. Following the glass minnow we made other casting baits, all of which could be termed as plug baits in the following order: Rubber Minnows, Phantom Minnows, Devon Minnows, Pearl Minnows and Metal Minnows.

In the year 1883, we made the Comstock Wood Minnow, the body being made of wood with glass eyes and spinners mounted upon the side instead of at the head and tail.

"In the year 1898, we were the first to place on the market a wood minnow of the present day construction.

"This information was taken from a circular which was used many years ago and was prepared by Mr. J. E. Pfleuger."

Another version credits James Heddon with its origination. H. E. Circle, Assistant Director of Sales and Advertising, James Heddon's Sons, Dowagiac, Michigan, says:

"As you possibly know, Jim Heddon had a good many firsts in his day and perhaps the most illustrious item to his credit is the first topwater artificial plug in America, possibly the world. This was around 1898 . . .

"The original topwater plug made by Jim Heddon was called 'Old 200.' Today this is known as the '210' and it is considerably smaller than the original three hook lure.

"Jim was making these lures for local fishermen who pestered him to death when they learned of his success on the local streams and lakes. This was around 1897 . . .

"About 1898, Jim and his two sons, Charles and Will, sat down at the family table to talk over the situation. When they were finished, the first company had been formed to produce artificial baits on a commercial basis."

The present writer recalls that the first plugs he ever used—about 1908—were a Rush Tango Minnow and a Heddon's Dowagiac, in fact, the term Dowagiac was loosely applied to the method of casting such lures in those times. Even today in certain southern localities, the natives do not go "plugging" but rather "Dow-Jacking," undoubtedly a corruption from the early Heddon Dowagiac plug.

Grover Cleveland's *Fishing and Shooting Sketches* came out in 1906. Chapters of interest to anglers include *A Defense of Fishermen, The Mission of Fishing and Fishermen, Some Fishing Pretenses and Affectations,* and *A Word to Fishermen.*

Abraham Lansing's *Recollections,* a privately printed work limited to three hundred copies, made its appearance in 1909. The author, a distinguished lawyer of Albany, N.Y., recounts in a most interesting manner his salmon fishing experiences at Camp Albany on the Restigouche River. Among his river neighbors were the angling bibliophiles, Daniel B. Fearling and Dean Sage, whose large collections are known to all fishermen.

And now we come to the first American work dealing exclusively with fishing the fly on top of the water. This was *Practical Dry Fly Fishing,* 1912, by Emlyn M. Gill. The author draws heavily on the English works of Dewar and Halford and acknowledges his indebtedness as well to G. M. L. LaBranche, one of the great fly fishers of this country.

No mention can be found in the book concerning the brown trout but, from other sources, we learn that they had taken hold well and were now practically dominant on a great number of the trout streams. These fish were moody, wary feeders and it was daily becoming more apparent that they preferred flies that more closely imitated the natural trout stream insects. Gill deplored the lack of an American stream entomology but stated that this should

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Sing . . . You

NEARLY a decade has elapsed since the spinning reel was introduced on this continent, yet relatively few fishermen have become acquainted with it. This is most unusual, fishermen are a curious bunch. Eager to try out new fly patterns, new plugs and newly designed spoons, new rods or a new type line, only a scattered number of them have ventured astream with a spinning reel to learn of the advantages this reel has to offer.

To many the spinning reel looks like an outdated coffee-grinder. Fishermen who have used it know what the fixed spool reel will do and they have much more to say about it. They call it "radar" tackle, a foolproof back-lash reel, a method of fishing that provides many interesting experiences on the stream.

Perhaps the reason more fishermen in Pennsylvania haven't considered the spinning reel to a large extent can be parked squarely on the shoulders of many writers. Many have expressed the view in their writings that spinning represents the "in between" method of fishing. It is the "in between" method of fly fishing and plug casting.

The spinning rod and reel are designed to handle those lures which are too light in weight for the one and too heavy for the other type rod. Perhaps the reason more fishermen haven't considered spinning seriously is because they purchased some unconventional fixed-spool reel, assembled it on their casting rod or the middle and tip section of a fly rod and have found that this outfit doesn't always measure up to what the spinning enthusiasts claim for it. Perhaps the reason lies in the fact that most fishermen own a fly and casting outfit and figure this is sufficient. Whatever the reason may be, it is unfortunate that they have not taken the opportunity to use this "radar" tackle, the fixed spool method of fishing.

Suppose we examine a spinning reel, a spinning rod and a spinning line and find the advantages this equipment has to offer the fishermen of this Commonwealth. Here are some brief answers to questions asked frequently about this tackle. Perhaps this may throw some new light on this tackle and encourage more fishermen to investigate for themselves this comparatively new method inherited from the old world angler.

Q. What are the principles involved in spinning?

A. Spinning makes it possible to make longer casts with a minimum

of effort. Likewise less friction is involved when making a cast with a spinning reel. This can be readily understood by experimenting with an ordinary spool of thread. If the thread is pulled from the spool so that it causes the spool to revolve, it takes a certain amount of effort to overcome the friction involved. However, if the spool is turned lengthwise and the thread is pulled off the end while the spool is held stationary, it can be accomplished with very little effort or friction involved. This is how a spinning reel works. Whereas the spool on the casting reel revolves when the line is cast, the spool on the spinning reel remains stationary.

Q. How is this stationary spool incorporated into a spinning reel?

A. The spool of the spinning reel is built so that it faces the tip end of the rod and is held stationary in that position. Thus the line uncoils from the end of the spool, runs through the guides without any undue friction. The reel has a multiplying action to retrieve the line when the handle is cranked or merely by turning the reel handle a partial turn and this in turn closes the pick-up arm and stops the line from uncoiling from the spool. Your finger is also an auxiliary brake. By touching the line or the spool it will cause the line from uncoiling from the fixed spool.

Q. I understand the reel can be adjusted to give a certain amount of tension on the line. Is this correct?

A. Yes. There is an adjustment on the reel that can be set to the test of the line. If the line is a five pound test, the brake can be set to say 4½ lbs. and when playing a fish, the reel will slip whenever the pressure exceeds this amount. It will retrieve line the instant the pressure is decreased again.

Q. Must the brake be adjusted with each cast?

A. No. Adjust the brake when starting to cast and then let it remain at this tension as long as that same line is used.

Q. Just how is the line picked up after a cast and placed back on the spool again?

Which is best, bamboo, steel or glass?

A. A spinning rod is generally 6½ or 7 foot in length, has guides similar to those found on a casting rod, and has an exceptionally long handle. The tip should not shoulder all the action, but the action should extend down to the cork handle. Glass, bamboo or steel spinning rods are all used and liked by spinning enthusiasts. The choice is purely a personal one.

Q. Why does a spinning rod have such a long handle?

A. The handle is generally 12 to 15 inches in length. This length grip makes it possible to shift the position of the reel. This helps to balance the outfit and also, it can be moved or shifted toward the rear when using light weight lures. When casting, the stem of the reel is placed between the second and third finger and the cork grip acts as both a reel seat and a handle.

Q. Are the guides the same as on another rod?

A. The first guide on the spinning rod, that is, the one nearest the cork handle should be at least an inch in diameter. This large guide gathers the line as it uncoils from the spool and sends it more straight through the other guides. Guides should be of glass or hard steel, similar to those

Spinners!

That Great Day is here for the fixed reel artists who insist the so-called "coffee-grinder" is here to stay. Here are some facts in question and answer form to back it up!

By DON SHINER

turned. That is, the pick-up arm revolves around the stationary spool four times to one complete turn of the handle and this winds the line back on the stationary spool.

Q. Why is the spinning reel suspended below the rod and handle?

A. Gravity makes it seek this position since the reel is off-set from the rod. The primary reason it is set off from the handle is to minimize line slap against the rod as the line uncoils from the fixed spool.

Q. Does the spinning reel have a brake or does it require thumbing much like a conventional casting reel?

A. Yes, the pick-up arm acts as a brake. When a cast is made, the lure can be checked in flight

A. As was mentioned in question number two, the line is replaced on the fixed spool by a pick-up arm. The pick-up arm is swung out of the way before making a cast. Then, the first partial turn of the handle automatically brings the pick-up arm back into position and it winds the line back on the spool as it revolves around the spool.

Q. What is a spinning rod like?

found on a casting rod.

Q. What about the lines, what are they like?

A. Spinning lines are either braided nylon or monofilament. The monofilament is similar to leader material. They range in test from two to ten pound test.

Q. Are spinning lines thinner in diameter than fly lines?

(*Turn to page* 23)

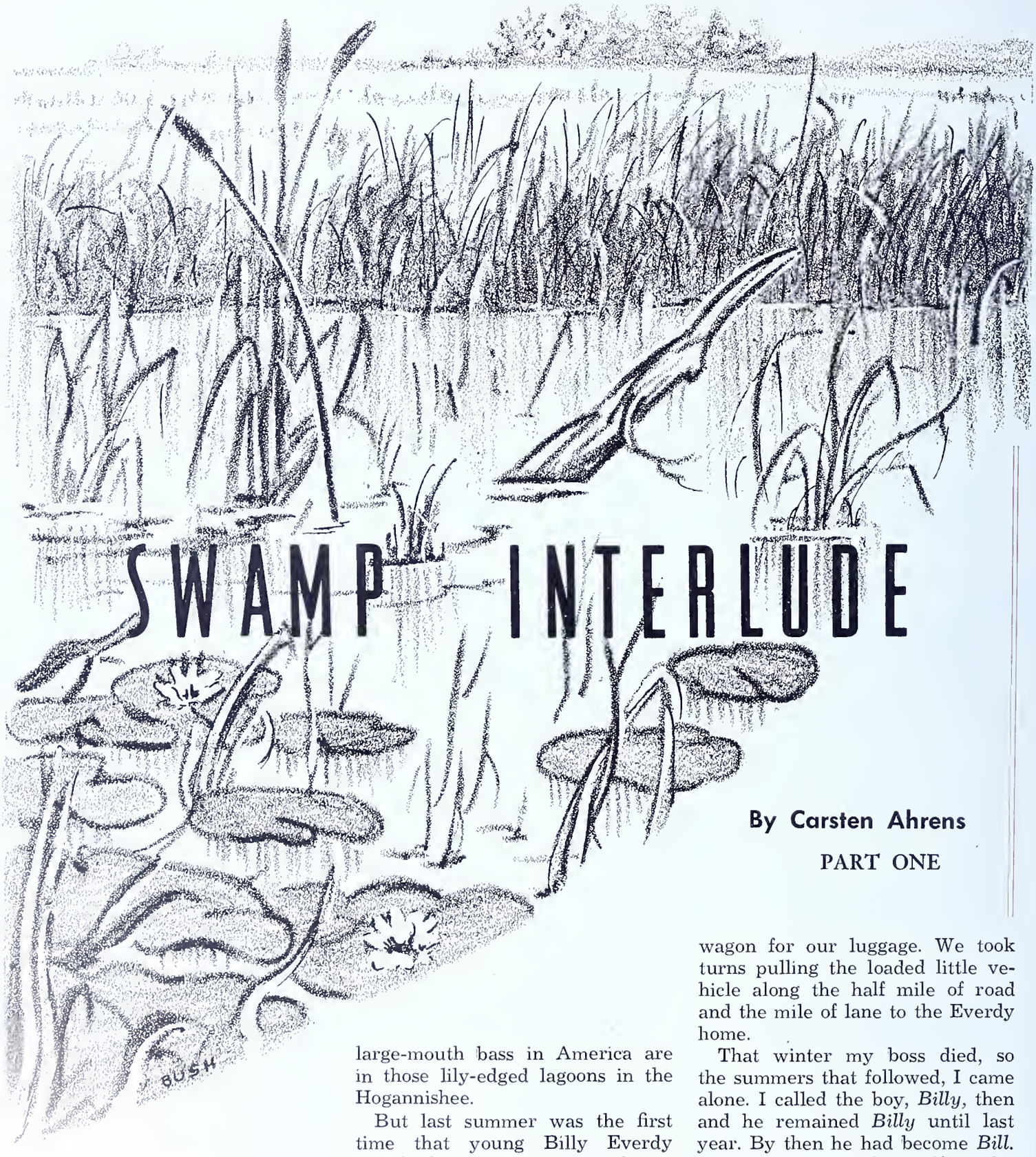
Susquehanna Yacht Club members ready their crafts for a sailing cruise. When the winds are gentle it isn't unusual for a good sailor to trail a trolling line out the stern of his ship. It isn't all smooth sailing, however, because sudden strong gusts of wind tip over the slight craft without warning.

At right: A race is taking form as sails jockey for position. When the wind is right th craft make knots. Sailing is becoming more and more popular along the Susquehanna These scenes were taken along the river in Lancaster County.

Autumn Winds fill out white sails on the Susquehanna

—Photos by Bob Motter

At right: Getting sails up and ready, you want to watch out for that swinging boom or somebody's likely to have a fine splitting headache.



SWAMP INTERLUDE

By Carsten Ahrens

PART ONE

DO I BELIEVE in ghosts? Of course not . . . no fisherman does. Occasionally, though, an angler has an experience that's beyond him. I always go to the old Hogannishee Swamp on my vacation . . . that's out there where our State flattens out. I get my meals and room with the Everdys. I'd swear the fightingest large-mouth bass in America are in those lily-edged lagoons in the Hogannishee.

But last summer was the first time that young Billy Everdy wasn't there to meet me. When I alighted from the trolley at Stop 113 on that eighth yearly visit to the swamp, it never occurred to me that Bill wouldn't be there. I looked forward to seeing the boy each year, shaking his firm, brown hand, and hearing where in the swamp the bass were most active. He was ten years old when I first met him . . . my boss introduced us. The lad had his little red wagon for our luggage. We took turns pulling the loaded little vehicle along the half mile of road and the mile of lane to the Everdy home.

That winter my boss died, so the summers that followed, I came alone. I called the boy, *Billy,* then and he remained *Billy* until last year. By then he had become *Bill.*

On the mile and a half to the Everdy farmhouse, we passed only one dwelling. Here in an accumulation of additions the Von Eckles lived with their eight boys. They were always waiting in perfect order with Hugo, the oldest, leaning on the picket fence, all the way down to tiny Nehemiah, trying to pull himself up to see. Each year they chorused, "Hello, Billy," until last year when they called

Did you ever have that tingling feeling of someone pouring ice-water through your veins as you passed by a spooky spot. There's something eerie and mysterious, unexplained slimy, unearthy things way back there in the lonely swamp. Here's a yarn, in two parts, that keeps you guessing.

just "Hello, Bill." When I had jumped off the trolley last year, I called him Billy as usual; after we passed the Von Eckles, I called him Bill.

I always lit a cigarette as we hiked along. Smoking on the trolley was forbidden and the trip down from Tilton was an hour and a half long. Each year I'd say, "I don't suppose you'd care for a cigarette?" And each year he'd answer, "No, sir." But last summer (when he became Bill), he answered, "I don't care if I do" —dexterously lighted a match with his thumb and hiked along puffing like a veteran. I never knew a more thoroughly likeable kid; he was clean cut, and he had an amazing head of dark red hair.

He was endlessly valuable as a guide. His father needed his help with the farm work so we'd be up before daybreak. He'd take me to a likely spot with his outboard, and he'd tow the rowboat I'd use during the morning. He'd get me for lunch and afterward locate me for the afternoon. In between times he'd cultivate corn or make hay. Often I'd help him with some job in the morning, and then we'd visit some distant part of the swamp for a half day. He was an expert fisherman, and he taught me the common names of lots of the plants and animals of the swamp. Gradually I became well-enough acquainted with the eastern end of the mammoth swamp so I could travel alone without getting lost.

So you can understand why I was more than a little disappointed when Bill wasn't at the trolley stop to meet me. The sun was going down. On either side of the narrow road were two rows of juniper —cedar, the natives called them— that were old and shaggy. And at the first tree's roots was Bill's old wagon. I was glad to see it. Bill hadn't forgotten.

I put my belongings on the wagon and started down the road. The wagon was very old, and Bill had neglected to oil it—which wasn't like Bill. It pulled hard and squeaked. When I passed the Von Eckles, only one of the boys . . . the one with the cleft palate . . . Aloysius, I believe he was called . . . was in sight. He came bounding toward me, stammering and gesticulating. I couldn't understand him but it was evident that he didn't want me to use Bill's wagon. Then Hugo appeared, stolidly looked over the situation for a while, and then called off his younger brother.

I shouted, "Hugo, where is Bill Everdy?"

Hugo was slow of speech. When he did talk, he used one word at a time . . . as though each was a ponderous thing. Finally he answered:

"I — do — not — know—— Anybody—does."

I had been frequently amused at this use of "anybody" in the swamp. The speaker meant, of course, "nobody." Now I wasn't amused.

"Didn't he leave this wagon for me?"

But Hugo turned and he and Aloysius disappeared around the house.

What could have happened to Bill since he waved goodby last year while my trolley threw blue sparks into the night?

I went on down the lane. I forgot about the Everdys months on end, yet to me a vacation in the Hogannishee Swamp without Bill would be tame indeed. I couldn't find another guide like Bill. The Hogannishee is a huge place, and even after eight summers I hesitated to travel alone far from the Everdy landing.

It was getting dark when I opened the lane gate and pulled the wagon into the farm yard. I was surprised at the general rundown appearance of the place even in the gathering dusk. Farm equipment stood about; the grass was uncut. Mr. Everdy was sitting on the back steps, silhouetted against the afterglow. He looked up when he heard the creaking of the wagon.

"I'm glad to see you," he called. He got up stiffly and we shook hands. "How have you been?" . . . and then without waiting for me to reply, he turned and called to the darkened house:

"Gertie, Mr. Wright's here."

Bill's mother lighted a kerosene lamp in the kitchen, and we joined her inside.

"Hello, Mrs. Everdy," I called.

"It's good to see you again," she said. "You wash up on the bench. Pa, put on a clean roller towel. I'll have eggs and potatoes frying in no time . . . you like onions fried with 'em, don't you? There's bacon and smearcase and cold apple pie,

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Bill Everdy

Popping BUG BASS

By Keith Schuyler

Here's a yarn concerning the "acme" of bass fishing . . . toss a bug out on a quiet pool . . . let it sit a moment . . . give it a bit of a twitch . . . hold on to your hat! . . .

IT looked very much as though we might take a beating from the River for the first time.

Early July has never been my first choice of times to fish for bass anyway. But, circumstances decreed that the better-half and I take the first week or none. Already three days had passed and our efforts had been confined chiefly to dodging thunderstorms and looking at scenery that I had seen before.

A dragon fly provided the tip-off that our trip might not be in vain. He was just one of many that had been darting across the water to feed on insects and stop for a frequent love tryst atop one of the weeds poking its head above the ripples. This fellow chose a weed that barely broke the surface, and it proved his undoing.

There was a savage splash and swirl—then the dragon fly was gone.

"Did you see that?" I exclaimed. "*That* was a fish!"

In reply, the Mrs. carefully laid her casting rod in the bottom of the boat and grabbed her assembled fly rod. It had a popping bug attached. However, the two o'clock sun, the shallow water and several days of suffering-hot weather behind us made the use of the feathered corks useless at the moment I was sure. I knew that section well. Gravel bottom and very few weeds with no brush in two feet of water under a blazing sun are not conducive to bug fishing for bass the first week in July.

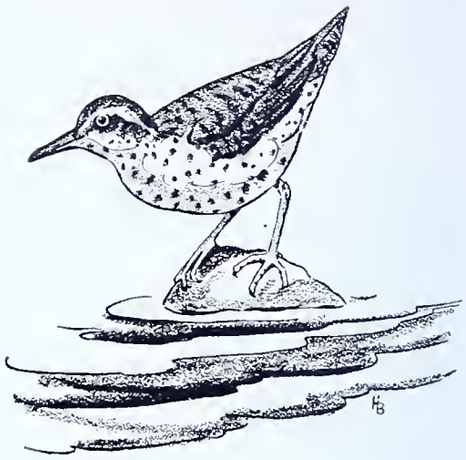
The hot wind which had plagued us between storms shoved the boat out into the slow current and I had to maneuver it back into casting position. Whipping out line quickly, I shot it into the wind. My prayer was answered when the dark brown bug with a light tan tail settled just over the tiny patch of weeds.

I shook out a little slack so that the bug would remain motionless as the boat already began to drift with the wind. For twenty seconds the bug bounced spitefully on the ripples, then my slack was gone, and I gave the bug a hearty twitch. There was a distinct "bloop," a tiny splash—then the bug disappeared in an explosion of froth and spray.

Almost before the hole in the river had filled up again, a two-pound chunk of bronze colored muscle climbed toward the sun thirty feet away. Then the small-mouth raced toward the deep hole where we had intended to fish. My fly rod had given all it was going to allow, however, and a few minutes later we had the first bass of the trip.

Again I rowed into the wind toward another splash from a feeding fish. This time it was a tiny pike not over sixteen inches long that smashed the popping bug. He must have tipped off the other fish when he was returned to the water, because we could get no further results. Anyway, the wind made fishing miserable and we decided to go on down the river to a spot where a sheltering bank would give us a fighting chance.

"I thought the bass would be in the deep water during this hot weather," I opined after the outboard started us toward our destination. "Maybe we have been missing a bet."



There was no natural action on the surface, but the popping bug drew a foot-long small-mouth from the sunken limbs before we eased into a sheltered cove that was built for bass.

My first cast went a bit farther over the lily pads and assorted sticks than I intended, and I was afraid to move it in the knowledge that I would be in trouble if a fish struck. So, when I started the retrieve, I jerked the bug fast to get it into more open water. I wasn't fast enough.

There was a "floomph," and I had a fish on. It came toward me easily enough, and I said, "It must be a rock bass," before I suddenly knew that it couldn't be. The fish must have started toward me the moment he was hooked, for when he turned, the fly rod could not stop him.

Down into the submarine forest he went with glee, and I soon came to realize that I was hung up—badly. Allowing the doubled rod to slowly straighten, I nevertheless maintained enough pressure to prevent slack, and waited.

In a few moments, Mr. Bass feeling the slackened pressure, came cautiously out of his sunken labyrinth the way he went in. As soon as he was in the clear, I gave him the hook again. From then on, the battle was in my favor. That fifteen and one-half inches of large-mouth was a buster.

During the next forty minutes we were busy a good part of the time fighting back as those bronze bombers attacked the tiny popping bugs.

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MEADOW BROOK SURPRISES

By WILLIAM BOYD

Small streams have a surprising habit of housing respectable fish. Hard to fish, brushy with plenty of cover, it's a natural setting for a grab-bag catch.

IT WAS one of those sultry July afternoons when it was much too hot to do anything. I had scarcely ambition enough to move around in our living-room, for movement of almost any kind brought perspiration.

My young nephew, Jim, was spending a week with us and, as is usually true of ten-year-olds, didn't appear to mind the heat in the least. He had his legs dangling over the end of the davenport as he perused with much concentration an adventure cartoon booklet he had acquired at a neighborhood store.

I had removed my necktie and had loosened the collar of my shirt in the hope of a little more comfort when young Jim tossed aside his cartoons and proposed:

"Uncle Boyd, how about goin' fishin'?" It was my afternoon away from the office and I hadn't a thing on the agenda, so I really had no legitimate excuse. Further, I had told Jim he and I would go fishing sometime when he was with us.

Having no real reason to refuse his proposal, I agreed in a half-hearted sort of fashion, making a mental reservation we would not go too far away from home.

"You'll have to help me get minnows," I told Jim, and he said:

"Gosh, that'll be almost as much fun as catching big fish!"

We went to the rumpus room in our basement, where my fishing clothes hang during the spring and summer in a big, moth-proof garment bag. A shirt, a pair of light-weight khaki trousers, my wading stockings and shoes were all that I put on, but Jim's preparations were even more simple. He merely changed to an older pair of sneakers, making three articles of wearing apparel for him—the sneakers, a pair of knee-length pants over his shorts, and that was all. No shirt. No hat.

How I envied him! I'd like to have dressed as Jim was dressed, but I could imagine the neighbors with lifted eyebrows if I cavorted about the place minus a shirt and socks.

It was only a ten-minute drive across the mountain to the little stream where I knew redfins were to be had. I held the net while Jim waded toward it, stirring around under the over-hanging embankments to drive hiding minnows from these places.

We got about a half dozen redfins of the right size about every time I lifted the net, so it was a matter of only a few minutes until we had in my "breather" bucket all the minnows we would need.

The stream which I had in mind for the afternoon of fishing is one of those sluggish meadow creeks flowing virtually its full length through farmland and at places so shallow one can cross it without getting his ankles wet and at other places as deep as one's armpits.

The upper reaches of this stream are stocked annually with brown trout but none of them is placed in the creek for a mile or slightly more above its mouth. This stretch of water I knew had bass in it, for I had caught them on one or two of the former occasions I had fished there.

Indeed, I had learned of the presence of bass in the creek purely by accident. Usually I get "itchy" a week or two before trout season opens in the spring and, in company with a retired school teacher friend of mine, usually have a try at suckers.

It was the former teacher who told me this particular stream contained many big suckers. And it does, for I have seen these suckers in big schools lying on the muddy bottom. It was while fishing for suckers that I first hooked onto a bass in the creek. He took a big night crawler on my hook and I hauled him in, carefully to liberate him.

However, I had little confidence that bass were numerous enough

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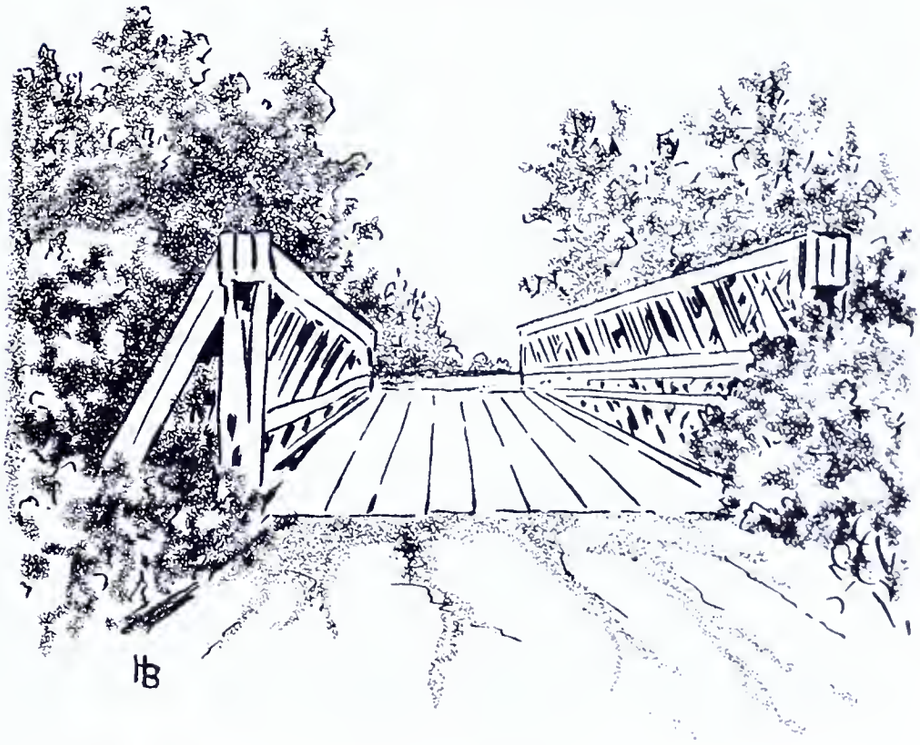

Our Anglerettes — FOR AND ABOUT MILADY ANGLER

By ELLEN A. DIETRICH

Scene: Two back yards on Sunset Drive; two neighbors busily pulling weeds, loosening earth and engaging in over-the-fence conversation.

"My, what a lovely day!"

Bess Bethel dropped her hoe with a thud and replied: "Yes, and would you believe it's been three full weeks since we had our last fishing lesson? I'm just dying to go again, aren't you?"

"Indeed I am!" was the almost as vehement reply of her neighbor, Ruth Reardon, as the latter suddenly sat down beside a sturdy, blooming pink phlox. Confidentially, she then added: "From what I overheard your man say to mine out front last evening, perhaps we'll be going again sooner than we realize."

"Is that so?"

"Well, anyway, I have good reason to suspect the urge is beginning to snatch at them again. Donald's words to Charles were to the effect that he'd like to have gone fishing that very minute if it didn't take so plagued long to gather minnows for bait. He said he wanted to try some *still fishing* for a change—whatever in the world still fishing is."

"There's an awful lot I don't know about angling, as you appreciate; but I do know the meaning of still fishing. When you still fish, you actually remain still, as the name implies. In other words, you just sit, or lie or otherwise loll around—on a shore or pier, in a boat or canoe, or in some other such more or less comfortable position and location—and you *let the bait* do the *work,*" informed Bess.

"Just what work can a minnow do?" skeptically countered Ruth. "Isn't a minnow simply a wee little fish?"

"To be sure, a minnow is a tiny fish. And a good little worker for the fisherman. You see, fish in general eat smaller fish and minnows are, therefore, among the live baits used in fresh water fishing."

"Yes?"

"But," hastily added Bess, "'therein also lies one of the chief reasons why Don doesn't like to fish very often with minnows or several other live baits. First, he says it's more sport and more fun to try your skill at fooling the fish by making them believe artificial lures are *real* and *alive*. Besides, he explains, we shouldn't take too many minnows and other bait-fish or fish-bait from our streams; because each time we do, we decrease the supply of natural food for the fish."

"That's a good one!" scoffed her friend. "Fishermen fish to catch and *kill* fish. Why, then, should they worry about whether the fish have food?"

"True, both anglers and anglerettes do kill most of the fish they catch, I realize. In fact, as I understand from Don, it is the exceptional angler who puts 'em back in the stream. Nevertheless, the finny ones must live and grow between killings, you know. And to do both, they must *eat.*"

"I'll grant you that point. Still, I don't understand how all this leads to minnows catching fish," insisted Ruth.

"Well, when you place a live minnow on a hook and line and lower it into the water, you sit quietly by, while the little critter swims and swims and swims and swims! As he does so, he attracts the attention of a large fish—you hope! Finally, when the hunger urge (or some other of several much-debated urges) strikes the larger fish, he, in turn, strikes the tiny one. Generally, you can't see him do so, but you know by the sudden jerking of the line—or floater, if you use one—that all this is going on below the surface of the water. And when he really does strike the bait, he attempts to swallow it. Then he, too, is hooked—or should be, if you've timed yourself correctly and set the hook at the right moment."

"Sounds easy. Is it?"

"It's not difficult. Don says whether you use artificial lures or live bait, the most important thing to learn — with *practice* as your best teacher — is just *when* to 'set' the hook."

"Yes," appended Ruth. I've heard Charles, too, remark that some fish play with the bait for a while before taking it, while others strike it savagely, almost like a hit-run driver."

Bess concluded with: "Right you are. And from that description, it's easily understood that if you attempt to set the hook too quickly, you simply pull it away from your victim. On the other hand, if you wait too long and give the finny fish an opportunity to discover that there's something wrong with your lure, he'll often stand right up on his tail in defiance and spit the bait back in your face!"

"Sounds as though still fishing might be interesting for a change, as your beloved remarked," muttered Ruth. "Wonder if they'll take us along some time when they do that, too?"

. . . A few more weeds were pulled. A few more feet of earth were hoed. And then . . .

"Ruth! I've an idea. About a year ago I accompanied Don to a small stream not far from here to gather minnows. It wasn't difficult but it did require time. It's now only ten o'clock and we have all day. Do you think . . .?"

"Do I think we could do it?" interrupted Ruth. "Let's. And when they come home this afternoon we'll have the minnows and they might have the urge again to fish!"

Less than two hours later, our anglerettes returned, with exactly thirty-five minnows, the legal limit, plus four large, brown, flatbodied insects in a minnow bucket. The insects they had also found in the small stream. There were more of them but Bess and Ruth had decided to take only four—one for each fisherman that evening. And they didn't know what they were, though the things were certainly *alive*. And who could tell? Perhaps an angler or anglerette might be able to land a whopper with such a bug on a hook and line?

Placing the minnow bucket in a stationary tub and turning on a cold water faucet to keep the water cool and fresh, as Bess recalled Don had done on the previous occasion, were our anglerettes' final chores on behalf of the bait-fish before resuming weeding and hoeing.

Both Don and Charles, needless to write, were especially pleased that afternoon when they returned from work and learned that their wives had everything in readiness—even the minnows—for a fishing jaunt. 'Twas Daylight Saving Time and darkness was hours away.

As Don went downstairs to turn off the spigot and bring up the minnow bucket, however, he encountered another angle to this angler's tale. The minnows, all thirty-five of them, were on their backs and sides—dead; while the four large, brown, flat-bodied insects were contentedly crawling about in the stationary tub, as though "licking their chops" in veritable satisfaction over their accomplishment.

Don and Charles explained to the women folks that snapping turtles, water snakes and human beings weren't the only creatures that rob our streams of bait-fish and fish-bait. The four large, brown, flat-bodied insects were giant water bugs; and they, too, kill fish, tadpoles, snails and any other water-dwelling life that they can subdue.

As Bess and Ruth woefully agreed they never did like bugs anyway, both husbands arose heroically to the occasion.

First, they truthfully told their ladies that the local fishing club would appreciate learning of the whereabouts of the apparent infestation of the giant water bug, since it often became seriously abundant in fish ponds. Then they also truthfully added they were positive they'd all enjoy trying Don's huge assortment of artificial lures for the next few hours, anyway.

. . . And so, two back yards on Sunset Drive were deserted that evening.

ACTION AT BENNER SPRING PROJECT

The recently acquired Benner Spring, in Centre County, is now being analyzed in preparation for its use in the Benner Spring Experimental Station of the Pennsylvania Fish Commission.

The three-mile section of Spring Creek that accompanied the spring in the property leased from the Department of Welfare and the Western Penitentiary has been open to fishing this year under management by the Fish Commission, and good fishing was reported by Harold Stitzer, warden for the project.

In this picture a Fish Commission technician is measuring the flow of Benner Spring—a flow recorded as 8,000 gallons of water per minute. The picture is by George Gordon, official Fish Commission photographer.

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SING . . . YOU SPINNERS

(*From page* 15)

A. Yes indeed! Spinning was primarily designed for light weight lures and a light weight line must be used. The braided lines are much like a casting line, that is, are of a small diameter and never have a hard outer finish or surface as do fly lines.

Q. Is a 3 lb. test line better than a 7½ lb. test for spinning?

A. This depends on where you are fishing. If you are using light weight lures for trout in a stream or river where there are few snags, then a 3 or 4 lb. test line is fine. If you are fishing for bass or pike in a lake or stream where there are weeds, lily pads, stumps and logs, then a 7½ or 10 lb. test line is best. This heavy line should be used when using large lures and a medium action rod.

Q. Will a spinning reel backlash like a casting reel?

A. No. Since the spool is fixed or stationary, it can not spin or over run the line.

Q. Is a leader necessary with a spinning line?

A. Not necessarily. The light weight monofilament line is actually a leader. The heavier braided lines should have a leader fastened between the line and the lure.

Q. Then actually the light weight monofilament lines are nearly invisible in the water?

A. Yes.

Q. What type spinning lures are best?

A. Every type of casting lure can be used. Spinners, weighted flies, spoons, plugs of every description can be used.

Q. What weight lures can be used?

A. The most popular weight lures are between ⅛ oz. and ⅜ oz. However, only light weight lures can be used on a light action spinning rod. A medium and heavy action spinning rod can handle lures up to ⅝ oz. and more. What weight lures can be used depends on the action of the rod. Most fishermen have the impression that spinning is the go-between of a fly and casting rod, using the lures too heavy for the one and too light for the other. In some ways this is true. But spinning rods can be had in a variety of actions and those of medium or heavy action

can handle the very heaviest casting lures.

Q. Can spinning rods be used successfully for bass and pickerel?

A. Yes indeed! If a medium or stiff spinning rod is used with a 7½, 8, or 10 lb. test line and lures weighing up to ⅝ oz., bass and pickerel fishing can be very successful. The spinning outfit will out-distance a casting reel in length of cast, and regardless of how sloppy a cast is made the reel can not back-lash.

Q. Can live bait be used on a spinning rod?

A. Yes. Many fishermen prefer the spinning rod and reel when bait fishing in preference to a fly or casting rod outfit. Only a light twitch of the wrist can cast the most fragile bait a good distance. There is less chance of tearing the bait from the hook. Also, the pick-up arm can be allowed to remain open after the cast has been completed. Then, when a fish takes the bait it can take line from the reel without feeling any drag from the reel. Many spinning enthusiasts enjoy using their rod and reel for bait fishing as well as casting a wide range of lures.

Q. Is spinning difficult to learn, that is, for the person who is just becoming interested in fishing?

A. Spinning is about the easiest method of angling to learn. Once the equipment is acquired, the newcomer can learn to use it in a matter of minutes. Long casts can be made with a minimum amount of effort and there is no possibility of having a back lash. It is a very pleasing method of fishing and is definitely here to stay! This "radar" tackle can give the fisherman many pleasant days astream.

Many of us are at the "metallic" age—gold in our teeth, silver in our hair . . . and lead in our pants.

Two German fishermen were trying their luck on opposite banks of the River Spree. The angler on the British Zone bank was pulling in plenty of fish, while the fisherman on the Russian Zone bank couldn't get a bite. The German on the Russian side shouted in irritation: "How do you manage to catch so many fish while I get none?" "Very simple," replied the man on the British side, "the fish over here aren't afraid to open their mouths."

"Never mind how I can go fishing in prison. . . . Do you want to go fishing?"

MEADOW BROOK SURPRISES

(*From page* 21)

in the placid meadow stream to make worthwhile a bass-fishing expedition. So I had never gone there during bass season in the hope of getting a mess of these gamy fish.

I drove over a dusty country lane to a place along the creek where people evidently picnicked, for there was a crude table and a rustic bench between two trees. There's quite a hole in the creek here, 30 or 40 feet wide.

I cautioned Jim to be careful of the rod he was using, for it was one of my trout rods, the boy not having tackle of his own with him on his visit at our house.

Jim fished with enthusiasm for 15 or 20 minutes and then I noticed his attention was largely on a flock of ducks on the water above him rather than on his line.

I waded out from the south shore far enough to reach with my minnow-baited hook the deep channel of the creek. As I retrieved the lively redfin something struck it viciously, and I concluded there was a hungry pike in front of me.

The fish had mutilated the minnow so I fingered another lively one from the "breather" bucket and cast again to the same place my bait had been when I had the strike. In a few minutes my line began moving through the guides and I fed line from my automatic reel until it stopped moving. Then, when the line moved again, I struck and hooked the fish.

This one, I was quite certain, wasn't a pike. Rather, I anticipated catching a bass, for the strike had been a typical bass run. Sure enough, it was a nice, fat 12-inch bass which I beached, and the thought came to me that perhaps I was going to have a bit of profitable fun after all, even though I had followed the line of least resistance in taking young Jim fishing.

I was still confident it was a

pike that had first hit a minnow in that roily creek hole. After I made my cast this time I retrieved the minnow bait with short, sharp jerks to make the bait more visible and more attractive to pike that might be on the lookout for food.

My automatic reel had wrapped all but about eight feet of my line when it became taut with a sudden pull and I quickly stripped a few feet of line from the reel so the minnow would not be yanked from the mouth of the fish. When he struck again I sank the hook, and I knew by the way he performed that I had a pike.

The stream-lined fish, built for speed, tore around that pool at an amazing rate until I brought him to net and found him to be a beautiful pike.

My hook was deeply imbedded in the throat of the pike and I foolishly reached in his mouth in an attempt to dislodge it. I learned my mistake the painful way when he closed his powerful jaws and lacerated the forefinger of my right hand with the short, sharp teeth ringing his jaw.

Even though it would do him no good now, I concluded he could have both the minnow and the hook as I severed the leader just above the snell loop with the pair of small clippers I carry with me on fishing trips.

By this time I had decided I had grossly under-rated this little meadow stream and should have been giving it attention other than during early spring sucker season.

My boy companion had given up fishing by this time and was sound asleep in my car. I could understand how the quiet of the country lane and the heat of the July afternoon could make him drowsy, especially when I recalled I had him to an Eastern Baseball League night game the evening before and it had been long past his usual bedtime when he had turned in.

Fish evidently frequenting the channel where I had taken the pike and the bass, I decided to stay with it and try for a third fish. If there are such things as feeding periods this must have been one of them for I had a run immediately after my next cast.

The lively redfin, somewhat larger than those I had been using, had scarcely hit the water until a bass came up for it and carried it across and upstream. As was true of the first bass I caught, my redfin must have tasted good to this second creek bass for he kept it in his mouth until I set the hook and brought him to shore.

He might have been the twin brother of the first bass I landed, for he was as near the same size as he posibly could be.

I now had three nice fish on my stringer, which was as many as I desired, but I had an overwhelming desire to tangle with a really big pike, such as I am convinced are in this comparatively small stream, so I continued to fish for another half hour.

I had one more strike at the edge of a weed bed in the middle of the creek and I know it was a pike which made the pass at my minnow, but he didn't take the redfin in earnest and I couldn't hook him. Further, I reasoned he'd be there when I came back again to try for him, for I have every reason to believe this creek is fished very infrequently except for early spring when farmers of the neighborhood dunk worms in it in the hope of catching a mess of suckers for their families.

"Darn it, Louie! . . . You could afford boots of your own."

POPPING BUG BASS

(*From page* 20)

I let the red and white popper lie where it had fallen. Then it disappeared—just like that. There was no swirl or splash; the bug simply disappeared. I rammed home the hook.

Immediately the quiet surface blossomed into a surprised and enraged bass that was a smallmouth by name only. But somewhere in that enormous mouth the tiny bug was hooked solidly. The bass crashed back into the water and immediately came up for another look. Then he settled down to a throbbing tug-of-war only occasionally broken by a hurried trip to the surface.

He tried the usual tricks and a few new ones as the leader hissed after him. Twice he circled the boat before the tension of the rod

began to tell on his reserve of strength.

However, when a bass sucks a lure into his mouth as carefully as that bug had been taken, you can count on netting him if the line and leader hold. In this case they did, and when he finally swam into the net, the bass had completely demonstrated why his species is capable of holding top choice in my piscatorial preferences. Over eighteen inches long, he pulled the scale past the three and one-quarter pound mark.

I enjoy taking bass on plugs and even on bait, but give me the fly rod lures every time for the best sport. The deer-hair flies come second in preference, but I don't rate them in a class with the poppers when it comes to taking smallmouths. And, however much I respect the largemouth, he is still second-rate in my book as compared with his more muscular cousin.

Too, I find that the popper will take largemouths when they refuse the flies. This is largely due to the racket you can effect with the popper. It is generally conceded that fish sleep, and I believe that the action of the bug will often arouse a sleeping fish into a fighting mood.

Another advantage in the popping action of the bug comes in muddy, or cloudy water. Since the artificial bait gives off no taste or odor, the fish must see it to become interested. The popper will create enough surface activity to attract bass in any kind of water over a wide area.

It isn't always that a bass will hit them, either. The two pike caught on the recent trip are evidence. Large bluegills, fallfish and other surface feeders will slam into the feather occasionally to liven up your sport. Rock bass go crazy over the bugs and are frequently a source of annoyance if you are after larger fish when they steal the lure as soon as it hits the water.

There are many types of poppers on the market, but I personally prefer the red and white combination with long feathered tail covering the hook. If the fish hit short, clipping the feather closer to the hook will often overcome this difficulty.

"I'm afraid it's true, gentlemen!"

Those accustomed to catching their bass on plugs or live bait sometimes find it hard to believe that big bass can be induced to hit the little poppers. They just can't conceive how those lunkers can become attracted to such a queer looking animal or how you can hold the bass after he does become hooked.

Never undersell the poppers, or the flies either. If a bass sucks the lure under, you seldom lose him if your tackle holds together. The lures are equipped with sufficiently large hooks that frequently lodge in the fish's tongue—the toughest part of him.

Of course, if the bass comes crashing in from any direction, he may become hooked anywhere in his mouth or not at all. In this case it is a toss-up whether you will get him into the net.

One of the greatest single advantages, and one that becomes increasingly important in this day of over sixteen million anglers, is the fact that your fish is seldom badly hurt by the hook. You can return him to the water with practically no injury other than to his pride.

In fishing a popper, my experience has been that it should be treated as any other surface lure. Let it lie where it falls until all ripples have died and you are perfectly set for the retrieve. Frequently, fish will take the bug before it moves. If not, a few quick jerks on the line will create the proper popping effect. Keep your slack moving in with your free hand. You can either let the bug lie still again for a moment, or keep it moving with an occasional series of twitches to bring out the action. In colored water, I have found the more action you give it, the better.

Unlike dry-fly fishing for trout, you will find the bass more forgiving and you seldom strike too late. More than once I have had the bug disappear when my attention was diverted elsewhere, and I still hooked the fish solidly. Bass will often run with the bug for some distance.

Night or day, casting the popper is a sport that will bring forth the finest in fishing—if you hit it right.

Everybody can talk, but only a few know what to say.

CRUSADE FOR CLEAN STREAMS

(*From page* 6)

from the blast furnaces was changed to a dry process, and the lagoons were abandoned and allowed to dry up.

After a period of time, samples of the sludge at the bottom of the creek failed to give chemical evidence of ferro- or ferricyanides —evidence that the complex cyanides had disappeared from the bottom of the stream.

Fish killings in this area of Tulpehocken Creek had been an annual occurrence for many years, but none due to cyanides has occurred since the remedial steps were taken as a result of the experiments conducted in the laboratory.

SWAMP INTERLUDE

(*From page* 19)

too. Pa, you fire up good and make coffee."

By the time I had unpacked some of my stuff in the bedroom off the parlor, my meal was on the kitchen table.

While I was eating, the two sat at either end of the table with huge cups of coffee, but neither made much pretense of drinking. They ignored my hints until I had pushed back my chair and had lighted my pipe.

"Now," I demanded, "What's wrong?"

"Bill's gone," Mrs. Everdy said.

"Not dead?"

"We don't know. He just disappeared two weeks ago."

"Go on," I said.

"That's all there is," Mr. Everdy said. "He went down to the landing on Sunday afternoon . . . said he wanted to tinker with his outboard . . . said he wanted it perfect when Mr. Wright came. He never came back."

"He said he'd bring in Bess and Molly . . . those are the cows . . . when he came back, but he didn't come back."

"His boat?" I asked.

"All three boats, including his, were tied up as snug as you please. We know he took the Flaggon Trail over to the Taylor Trading Post on the lake and bought some cigarettes, but from there . . ." Mr. Everdy made a helpless gesture with both hands. "I went over to St. Maria . . . that's a settlement of French Canadian trappers back in the swamp . . . and to Germantown on the south edge. Everybody knows Bill, but no one has seen any trace of him."

"Let's see," I said, "Did you have to go for the cows the night Bill disappeared?"

"No, they were at the gate at supper-time, but they frequently come on their own account."

"Who left Bill's wagon at the car stop for me?"

"I suppose one of the Von Eckles boys . . . though probably not for you. Bill gave it to one of them a while ago. They often play under the cedars there."

We went over everything again, Bill's activities before his disappearance and his parents' attempts to find him. I sensed there was something that they were holding back.

"There's something else?"

"No," said Mrs. Everdy paling, "there is no truth to the gossip you may hear."

"Gertie is referring," her husband said slowly, "to the story Harmon Schultz started. There's a gang of holdups that have been pulling off some jobs near Tilton. They're supposed to have their hide-out back in the swamp somewheres. They held up Harmon . . . took his butter and eggs money from him. In the scuffle one of the masked men's cap was knocked off. Underneath, Harmon declares, was an unusual shade of red hair. He says that hair was on . . . our Bill!"

Conclusion of Part One

AMERICAN FISHING BOOKS

(*From page* 13)

prove no barrier to the successful use of the dry fly.

The early dry fly fishermen in this country were few and far between. Outside of Gordon, Cheney, Johnson, Gill, LaBranche and a couple of others, there were few who fished on the surface. Gill says that:

"No longer ago than the spring of 1911, one of the largest New York dealers in fishing tackle—one of the few who have carried a stock of floating flies for a number of years—told the author that, in his opinion, there were not more than one hundred real dry-fly fishermen in the United States."

An Angler's Reminiscences, 1913, by Charles Hallock, is a most interesting account of Hallock's life and his association with anglers and angling writers of that generation. The book contains portraits of Isaac McLellan, Spencer F. Baird, A. N. Cheney, W. C. Harris, Robert B. Roosevelt, Fred Mather, G. Brown Goode, and a host of others. Particularly noteworthy are the two chapters entitled *Angling Days and Angling Writers*, and *American Angling Literature*, but the work is of absorbing interest throughout. The edition apparently was small, for one seldom encounters copies in the old book shops.

In 1914, my friend George M. L. LaBranche came out with *The Dry Fly and Fast Water*. This book created a furore among anglers and proved the spark that set off dry-fly fishing in earnest. LaBranche described the application of the method to America's swift-running trout streams in a clear, understanding manner but, as usual, it took some years before the information was disseminated throughout the country.*

Some thirty years have now passed since *The Dry Fly and Fast Water* came into existence and it is fitting to note that the book is still in great demand, conclusive proof of a job well done.

We should here take note of another development, that is the introduction of the floating bass plug pioneered by B. F. Wilder and Louis B. Adams, of New York City in 1914. Taking bass on top of the water was a long time in getting a foothold; however, it is now in common use throughout the country, and is without doubt the cleanest and most sporting way of taking the American battler.

In 1915, Emerson Hough, in his *Out of Doors*, described a new method of fishing for trout by the use of bucktail

* The present writer has been fly fishing since a boy but was unacquainted with the dry fly until 1920. During the summer of 1918 and 1919 he lodged continuously at the Trout Run hotel on the Kettle Creek, in Pennsylvania, a rendezvous for brook trout fishermen who gathered there from all sections of the country, and does not recall ever hearing of the dry fly during that time

flies. This was distinctly an American innovation, but, as usual, it took some time until the majority of trout fishermen became familiar with it. The fly was not well known until about 1925, when its deadly effectiveness could no longer be concealed. Enormous trout were regularly being taken on the bucktail and, in the ensuing years, the fly has remained in wide use and has lost none of its popularity. Emerson Hough was a prolific writer and for many years conducted the *Chicago and the West* column in *Forest and Stream.*

Professor Bliss Perry's *Fishing with a Worm* is a masterly defense of the lowly angleworm and is written in a most refreshing and agreeable manner.

THE THIRD CYCLE, 1916—

With the dry fly now well on the water, the old cycle was rounding out and a new era in fly fishing was beginning to develop. This was brought about in part by the prolific increase of the stocked brown trout, a fish which proved far better able to cope with the inroads of civilization than the native brook trout. Introduced in this country in the early eighties, the brown trout had taken a good hold and a period of readjustment and study had become necessary, for the fish was far more difficult to catch than the old-time speckled trout *Salvelinus fontinalis.*

Streamcraft, by George Parker Holden, appeared in 1919. This was one of the first fishing books the present writer ever owned and today he still rates it one of the best. It is a most informative work on all phases of fly and bait casting, stream insects and fly tying and can heartily be recommended.

The Vanishing Trout by Dr. Charles Lose, 1931, presents a splendid and imperishable record of the wonderful days when the brook trout abounded in the Pennsylvania streams. The author, former principal of the Lock Haven public schools, fished throughout his life on such well-known streams as the Loyalsock, Lycoming Creek, Kettle Creek, Young Woman's Creek, Spring Creek, Penn's Creek and Pine Creek. The book is of absorbing interest. It contains an introduction by Col. Henry W. Shoemaker, the well-known Pennsylvania author and historian. Apparently the edition was very small for copies are seldom encountered. The present writer considers *The Vanishing Trout* one of the treasures in his collection and belives that it awaits a more discerning day when its true worth will be better appreciated.

John Alden Knight's *The Modern Angler, Including the Solunar Theory,* made its appearance in 1936. The author presents in an interesting manner his convictions that the pull of the sun and the moon which creates the tides also exerts a strong influence on the feeding habits of fresh-water fish. Since this first appearance of the Solunar theory, Mr. Knight has written considerably on the same subject and has annually issued a pamphlet for the current year, entitled *The Solunar Tables.* The theory is highly controversial.

Trout Streams, 1938, by Paul R. Needham, Director of Fisheries, Oregon State Game Commission, is a sound, practical treatise on stream conditions, stream management, and the distribution, propagation, stocking and protection of trout in inland waters.

My friend Charles E. Goodspeed's *Angling in America,* 1938, cannot be too highly recommended. It is a most fascinating and detailed account of the history of fishing as practiced in this country and was written by one who thoroughly knows the subject. Appearing in a limited edition, the book is a collector's item and already rare. The latter part of the work is devoted to a check list of some 180 American angling publications, chronologically arranged and ending with the year 1900. The author is the well-known Boston bibliophile and rare book dealer.

To keep this history in its proper chronological sequence, I should here make mention of Du Pont's discovery of nylon in 1939. This material has, in a few years, almost superseded all others in the manufacture of fishing lines. Another variation of nylon, is in the form of leader material, a monofilament product that has practically supplanted silkworm gut, used by fly fishers since that historic day in 1724 when Saunders first made mention of its adaptability for this purpose.

Lee Wulff's *Leaping Silver,* 1940, is a splendid volume on the Atlantic salmon. The photographs are especially interesting and the chapters include *On the Life of the Salmon, On Where Salmon Lie, On Salmon Tackle, On Hooking the Salmon, On Playing the Salmon* and *In Retrospect.*

The Art of Tying the Wet Fly, 1941, by my friend James E. Leisenring, is an excellent work by one who is a pastmaster at the wet fly game. Brodhead's Creek in Pennsylvania is one of Leisenring's favorite haunts, and those readers who have lodged at "Analomink Charlie's" Hotel Rapids may recall seeing Leisenring's portrait in oil, hanging there on the wall. The introduction to his book is by Reuben Cross, the well-known Catskill region fly tyer.

Practical Fly Fishing, Containing Modern Fly Fishing Methods, The Fly Fisher's Entomology and How to Tie Flies, by the author of this work, appeared in 1943. This was the third book in the country on stream entomology and covers the description of some fifty nymphs and insects, together with their corresponding imitations.

Harold H. Smedley's *Fly Patterns and Their Origins,* 1943, gives a fine detailed account of the origin of some 150 trout and bass flies. The work is patterned somewhat after Mary Orvis Marbury's *Favorite Flies,* lacking, however, the numerous colored plates of the latter volume. The author is an outstanding tournament fly caster and for a number of years was on the All-American casting team.

Joseph D. Bates, Jr.'s *Spinning for American Game Fish,* 1947, is the first American work on the equipment and technique used in this new method of fishing. The author covers the evolution of spinning and provides considerable practical information on rods, the thread-like line and the fixed-spool reel, the latter a device which may eventually render obsolete the bait-casting reels now in common use. This is a most informative work and can be read with profit by all anglers whether or not they take up spinning.

The Complete Fly Fisherman, The Notes and Letters of Theodore Gordon, edited by my friend John McDonald, 1947, has already been mentioned. The editor has unearthed, and here presents in permanent form, the writings of the American father of the dry fly.

Art Flick's *Streamside Guide to Naturals and Their Imitations,* 1947, is the fourth book published in this country on trout stream insects. The author is the proprietor of the Westkill Tavern, at Westkill, New York, located about three miles distant from a well-known trout stream, the Schoharie River. *Streamside Guide* is an interesting work and contains two colored plates of trout stream insects reproduced from kodachrome.

* * * * * * * * * *

Thus we have traced the development of American fishing from the earliest times up to the present day, mainly through the medium of old fishing books. Many other worthwhile volumes should have been included but space did not permit.

In looking back over these pages, one can see that it has been a period of constant improvement in both tackle and fishing knowledge. Both of these factors have contributed to an ever-diminishing supply of fish, a situation that must be squarely faced if we are to continue in the pleasant sport of angling. Creel limits must be lowered, and more fish must be placed in the water to satisfy an ever-increasing group of anglers.

In the past the fishing literature of this country revolved about one main theme, catching fish, with little attention paid to putting them back. How much better off we would have been if as much energy had been expended in writing books on conservation!

Pennsylvania Fish Law Violations

Cases settled during the month of July, 1951

ALLEGHENY COUNTY

Bielak, Stanley M., 1100 Mt. Royal Blvd., Etna, Pa. Failure to display license plates on motorboat ..... $ 5.00
Coltman, Wm. C., 375 Parkway Dr., S. H. Pittsburgh, Pa. Fishing without a license 25.00
Davidek, Edward F., 1711 State St., Tarentum, Pa. Violation of the rules and regulations 20.00
Davidek, Michael R., 516 3rd Ave., Tarentum, Pa. Violation of the rules and regulations 20.00
Fitzgerald, Thomas P., Jr., 6651 Hedge St., Pittsburgh, Pa. One frog in closed season 10.00
Henry, J. F., 511 Ringgold St., McKeesport, Pa. One bass in closed season 10.00
Husher, Kenneth, R. D. 1, Perryopolis, Pa. Illegal operation of motorboat 10.00
Marmo, Louis, 433 7th Ave., Tarentum, Pa. Violation of the rules and regulations 20.00
Rekasi, Alex, 159 Overland Ave., Duquesne, Pa. Illegal device 20.00
Saturley, Hergert M., 2115 Koerner Ave., Pittsburgh, Pa. Lines not under immediate control 20.00
Stein, Jacob M., Peoples Rd., R. D. 9, Box 648, Pittsburgh, Pa. One frog in closed season 10.00
Stepp, Alfred J., Rural Bridge, Pa. Lending license button 25.00
Yeo, Thomas, 1406 Orangewood Ave., Pittsburgh, Pa. Failure to display license plates on motorboat 5.00

BERKS COUNTY

Boguslowski, Joseph, 605 Lancaster Ave., Reading, Pa. Fishing without a license 25.00
Sheaffer, Edwin, 1150 N. 11th St., Reading, Pa. Violation of the rules and regulations 20.00
Sheaffer, Norman F., 1150 N. 11th St., Reading, Pa. Violation of the rules and regulations 20.00

BLAIR COUNTY

Beck, John J., 1319 16th Ave., Altoona, Pa. One undersized bass 10.00
Boese, Herbert A., Stoney Lane, Altoona, Pa. One bass in closed season 10.00
Boyer, Clyde, 608 E. Main St., Roaring Springs, Pa. Failure to display license plates on motorboat 5.00
Burkholder, Leroy, 1331 16th Ave., Altoona, Pa. One undersized bass 10.00
Clarr, Clarence, R. D. No. 2, Altoona, Pa. One undersized bass 10.00
Emil, Melvin, P. O. Box 365, Tyrone, Pa. Violation of the rules and regulations 20.00
O'Dellick, John F., Claysburg, Pa. One undersized bass 10.00
Weber, Charles L., 914 3rd St., Juniata, Altoona, Pa. Failure to display license plates on motorboat 5.00

BRADFORD COUNTY

Alliger, E. C., Powell, Pa. Fishing without a license 25.00
Beers, Eugene, Monroeton, Pa. One undersized bass 10.00
Corneby, Frank E., 514 Desmond St., Athens, Pa. Fishing without a license 25.00
Wyghtman, Earl, Monroeton, Pa. Three undersized bass 30.00

BUTLER COUNTY

Waltman, Jay, Chicora, Pa. Failure to display license plates on motorboat 5.00

CAMBRIA COUNTY

Daniels, John, R. D. No. 1, South Fork, Pa. Exeeding creel limit 10.00
Hambley, Joseph G., Box 402, Hastings, Pa. Exceeding creel limit 10.00
Rickard, Paul E., Blandburg, Pa. One tadpole in closed season 10.00
Yoder, Clifford M., North Fork, Pa. Exceeding creel limit 30.00

CAMERON COUNTY

Hollowell, Emerson, 113 W. 5th St., Emporium, Pa. Violation of the rules and regulations 20.00

CARBON COUNTY

Chromiak, Stephen, 342 W. White St., Summit Hill, Pa. Fishing without a license 25.00
Hoffman, Clarence W., 201 Center St., E. Mauch Chunk, Pa. Fishing in a closed stream 25.00
Toth, John J., 325 E. Catawissa St., Nesquehoning, Pa. Fishing in a closed stream 25.00
Tout, James, 623 Center St., Mauch Chunk, Pa. Fishing in a closed stream 25.00
Turner, Harold R., Box 137, Weissport, Pa. Failure to display license plates on motorboat 10.00

CHESTER COUNTY

Lescarbousa, Louis, Oxford, Pa. Fishing in a closed stream 25.00
Trippett, Robena D., Birchrunville, Pa. One frog in closed season 10.00

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Libecco, Earl, R. D. No. 1, East Brady, Pa. Operating motorboat without a license 10.00
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Hubler, Alvin, Morrisdale, Pa. Fishing without a license 25.00
Philips, Blair, Brisbin, Pa. One sucker in closed season 10.00
Philips, David, Brisbin, Pa. Violation of the rules and regulations 20.00
Wendler, Carl, 818 Maple Ave., Dubois, Pa. Fishing in a closed stream 25.00

CLINTON COUNTY

Geyer, Lewis A., R. D. 1, Mill Hall, Pa. Violation of the rules and regulations 20.00
Geyer, Walter, 122 N. Jay St., Lock Haven, Pa. Violation of the rules and regulations 20.00
Lehman, Jeremia, W., Jr., Lamar, Pa. Fishing on borrowed license . 25.00
Shoemaker, Lock Haven, Pa. Fishing a posted stream 25.00
Snyder, Orman E., Drurys Run, Renovo, Pa. Fishing posted waters on Sunday 25.00
Zimmerman, George, Lamar, Pa. Loaning a fishing license 25.00

COLUMBIA COUNTY

Stooey, Walter, Berwick, Pa. Violation of the rules and regulations 20.00

DAUPHIN COUNTY

Cobaugh, Harry, 2637 Reel St., Harrisburg, Pa. Illegal operation of motorboat 5.00
Davis, Grant E., 905 N. 15th St., Harrisburg, Pa. Fishing in a closed stream 25.00
Grubic, Frank F., 50 Cedar St., Bressler, Pa. Fishing in a closed stream 25.00
Kunkle, John C., Mayfield St., Dover, Pa. Fishing in a closed stream .. 25.00

DELAWARE COUNTY

Morris, Sherwood H. Jr., 404 E. 24th St., Chester, Pa. Fishing without a license 25.00
Pacanowski, John B., 308 Houston St., Chester, Pa. Fishing without a license 25.00

ERIE COUNTY

Martin, Samuel M., 923 W. 28th St., Erie, Pa. Illegal device 25.00
Preston, J. T., 1775 W. 32nd St., Erie, Pa. Violation of the rules and regulations 20.00

FAYETTE COUNTY

Lowman, Ronald, Lemont Furnace, Pa. One trout in closed season 10.00
Meyers, Mrs. Annabelle, Farmington, Pa. Fishing without a license .. 25.00

FRANKLIN COUNTY

Cordell, Franklin, R. D. No. 2, Chambersburg, Pa. Illegal device 20.00
Heffner, Robert, Mont Alto, Pa. Fishing in a closed stream 25.00
Hippensteel, Wm., Red Bridge Tourist Court, Chambersburg, Pa. Fishing in a closed stream 25.00
Morris, Robert R., Chambersburg, Pa. Illegal device 20.00
Robinson, Glenn E., 262 E. Madison St., Greencastle, Pa. Rods and line not under immediate control 20.00
Smetzer, George I., R. D. No. 1, Waynesboro, Pa. Illegal device .. 20.00
Seacrest, Margaret, R. D. No. 2, Greencastle, Pa. Fishing in a closed stream 25.00
Snurr, Glenn, 115 Garfield St., Waynesboro, Pa. Fishing in a closed stream 25.00
Stumbaugh, John W., S. Carlisle St., Greencastle, Pa. Exceeding creel limit 10.00

FULTON COUNTY

Stralt, Coy W., Ammaranth, Pa. Fishing without a license 25.00

HUNTINGDON COUNTY

Morningstar, John H., James Creek, Pa. One bass in closed season .. 10.00
Park, James, Robertsdale, Pa. Exceeding creel limit 10.00
Price, James, Wood, Pa. Loaning a fishing license 25.00
Thompson, Thomas G., Star Route, Mill Creek, Pa. Two undersized bass 20.00

INDIANA COUNTY

Baun, Wayne J., R. D. No. 2, Rochester Mills, Pa. Fishing without a license 25.00
Ghiardi, Susan, R. D. No. 1, Blairsville, Pa. Fishing without a license 25.00
Gromely, Lee G., Glen Campbell, Pa. One undersized trout 10.00
Matko, William, Hillesdale, Pa. Exceeding creel limit 20.00
Natcher, Jacob A., R. D. No. 2, Ebensburg, Pa. Fishing in a closed stream 25.00
Rager, Wm. H., Cramer, Pa. Three bass in closed season 30.00
Stiles, Wilmer L., Homer City, Pa. Fishing in a closed stream 25.00

JEFFERSON COUNTY

Anthony, Harry L. Jr., R. D. No. 2, Reynoldsville, Pa. One bass in closed season 10.00
Emerick, Irvin, R. D. No. 2, Reynoldsville, Pa. One bass in closed season 10.00

JUNIATA COUNTY

Heath, Jannet, Thompsontown, Pa. Fishing without a license 25.00

LACKAWANNA COUNTY

Beck, David, 138 7th St., Blakely, Pa. One undersized pickerel 10.00
Doohaluk, Alex, 1286 Franklin St., Old Forge, Pa. Failure to display license plates on motorboat 10.00
Josephite, Anthony, Fleetville, Pa. Exceeding creel limit 200.00
Josephite, Stanley, Fleetville, Pa. Exceeding creel limit 200.00
Rochiniski, Andrew, 825 Mehan St., Dickson City, Pa. One bass in closed season 10.00
Spegar, Michael, 11th St., Blakley, Pa. One undersized pickerel 10.00

LANCASTER COUNTY

Gould, David, R. D. No. 2, Lancaster, Pa. Operating motorboat without displaying license plates 5.00
Ritter, A. F., 342 E. Orange St., Lancaster, Pa. Operating motorboat without displaying license plates 5.00

LAWRENCE COUNTY

Fleeger, Bud, 703 E. Reynolds St., New Castle, Pa. Exceeding creel limit 30.00
Recheck, Norman R., R. D. 9, New Castle, Pa. Fishing without a license 25.00
Scarazzo, Eirick H., 32 S. Mercer St., New Castle, Pa. Operating a motorboat without a license 25.00

LEBANON COUNTY

Snavely, Paul, R. D. No. 2, Lebanon, Pa. Failure to display license plates on motorboat 10.00

LEHIGH COUNTY

Benner, Walter J., 2004 Hanover Ave., Allentown, Pa. One undersized bass 10.00
Caciolo, Frank, 852 Cumberland St., Allentown, Pa. Operating a motorboat without displaying license plates 10.00
Minarovic, Alfred M., 421 N. Second St., Allentown, Pa. One undersized bass 10.00
Schleisner, Charles W., 658 Main St., Slatington, Pa. Using dealers license plates for pleasure 10.00
Sell, Norman, 743 S. 8th St., Allentown, Pa. Operating a motorboat without displaying license plates 10.00

LUZERNE COUNTY

Elko, John, 67 Lynwood St., Wilkes-Barre, Pa. One undersized bass .. 30.00
Katcavage, Anthony, 403 Slocum St., Swoyerville, Pa. One bass in closed season 10.00
Kashuba, Charles, 20 Webster St., Pittston, Pa. Exceeding creel limit 10.00
Mack, Stanley, 70 W. Ridge St., Nanticoke, Pa. Exceeding creel limit . 10.00
Mumie, Allen, Lattimer, Pa. Operating motorboat without displaying license plates 5.00
Savitsky, Anthony, 58 Welsh St., Pittston, Pa. Exceeding creel limit 20.00
Somers, Harold, 456 Monument Ave., Wyoming, Pa. Operating motorboat without displaying license plates 10.00
Visnefski, Bernard, 375 Carver St., Plymouth, Pa. Exceeding creel limit 10.00

LYCOMING COUNTY

Martin, Robert H., 228 W. 3rd St., Williamsport, Pa. Fishing in a closed stream 25.00
Paul, James D., 225 Thompson St., Jersey Shore, Pa. One undersized trout 20.00

McKEAN COUNTY

Bliss, Floyd L., 22 Charlotte St. One undersized trout 10.00
Casper, Millicent J., R. D. No. 3, Smethport, Pa. One undersized trout 10.00
Courtright, George R., 466 S. Ave., Bradford, Pa. Exceeding creel limit 40.00
Feeley, Colonel E., 88 Davis St., Bradford, Pa. One undersized trout 10.00
Fredericks, James T., 574 E. Main St., Bradford, Pa. Three undersized trout 30.00
Johnston, Gerald W., 60 Main St., Port Allegany, Pa. One undersized trout 10.00
Melinche, Mike J., Lewis Run, Pa. Exceeding creel limit 10.00
Nelson, John C., Sr., 22 Pleasant St., Bradford, Pa. One undersized trout 10.00

MERCER COUNTY

Walters, Clayton R., 502 Bessemer Ave., Grove City, Pa. Operating motorboat without displaying license plates 5.00

MIFFLIN COUNTY

Brown, Maynard W., R. D. No. 2, Lewistown, Pa. Fishing without a license 25.00
Carolus, Robert R., 10 Richmond Court, Lewistown, Pa. Operating motorboat without displaying license plates 5.00
Dobbs, John R., 808 Freedom Ave., Burnham, Pa. One undersized bass 10.00
Reichley, Gordon, R. D. No. 2, Lewistown, Pa. One bass in closed season 10.00

MONROE COUNTY

Kulp, Henry, Delaware Water Gap, Pa. Operating motorboat without displaying license plates 10.00

MONTGOMERY COUNTY

Huber, A. Kinsey, 13 Jones Ave., Flourtown, Pa. Failure to display license button 25.00
Knepp, Byron L., Gilbertsville, Pa. Operating motorboat without a license 10.00
Lysak, Wm., 233 Highland Ave., Lansdale, Pa. Exceeding creel limit 20.00
Williams, Walter, Gladwyne, Pa. Fishing in a closed stream and possessing two trout 25.00

NORTHAMPTON COUNTY

Meinhart, Herman, R. D. No. 2, Walnutport, Pa. Operating motorboat without displaying license plates 10.00
Rheiner, Adam, W. Bethlehem, Pa. Fishing in closed stream 25.00

NORTHUMBERLAND COUNTY

Bogle, Joseph L., 328 Hepburn St., Milton, Pa. Violation of the rules & regulations 20.00
Davis, John E., 322 S. Vine St., Shamokin, Pa. Line not under immediate control 20.00
Duzick, Thomas J., 1426 W. Willow St., Shamokin, Pa. Fishing in closed stream 25.00
Ford, John B., 270 Orange St., Northumberland, Pa. Operating motorboat without displaying license plates 5.00
Geise, Arthur O., 439 N. 2nd St., Sunbury, Pa. Operating motorboat without displaying license plates 5.00
Harter, L. M., Mount Carmel, Pa. Violation of the rules & regulations 20.00
Martinchick, Peter Jr., 1319 Willow St., Shamokin, Pa. Fishing in closed stream 25.00
Povlick, Frank S., Shamokin, Pa. Fishing in a closed stream 25.00
Shervinski, Stanley, 1528 W. Montgomery St., Shamokin, Pa. Fishing in closed stream 25.00
Shipman, Vernon, 270 Orange St., Sunbury, Pa. Operating motorboat without license 10.00

PHILADELPHIA COUNTY

Ballentine, George, 234 Richmond St., Philadelphia, Pa. Fishing without a license 25.00
Benson, Walter, 5404 Lawrence St., Philadelphia, Pa. Exceeding creel limit 20.00
Dixon, James, 5042 Chancellor St., Philadelphia, Pa. Fishing without a license 25.00
Goodfellow, John R., 36 E. Seltzer St., Philadelphia, Pa. Exceeding creel limit 20.00
Lee, Edward, 5308 Large St., Philadelphia, Pa. Illegal device 20.00
Miller, Joseph, 2136 E. William St., Philadelphia, Pa. Operating motorboat without a license 10.00
Miller, Joseph, 2136 E. William St., Philadelphia, Pa. Exceeding creel limit 10.00
Ohrenstein, Harry, 146 Long Lane, Upper Darby, Pa. Fishing without a license 25.00
Pritsky, Rudolph, 2016 E. Clearfield St., Philadelphia, Pa. Fishing without a license 25.00
Shiting, George, 1907 E. Lippencott St., Philadelphia, Pa. Exceeding creel limit 20.00

PIKE COUNTY

Bower, Mark T., R. D. No. 1, Hawley, Pa. Selling fish bait to non property guests 100.00

POTTER COUNTY

Schoener, Basil G., School St., Galeton, Pa. Illegal device 20.00

SCHUYLKILL COUNTY

Balliet, Wm., 202 Market St., Tamaqua, Pa. Exceeding creel limit .. 20.00
Bernitsky, John, Silver Creek, Pa. Five undersized trout 50.00
Bobarksh, John, 438 E. Union St., Tamaqua, Pa. Operating motorboat without displaying license plates 5.00
Garzio, Joseph, 118 E. Adams St., McAdoo, Pa. Illegal device 20.00
Simons, Joseph A., 417 E. Union St., Tamaqua, Pa. Exceeding creel limit 30.00
Stravinsky, Stanley, R. D. No. 3, East Mines, Pa. Illegal device 20.00
Warden, George H., Locust Dale, Pa. Giving false information to secure fishing license 25.00

SOMERSET COUNTY

Mognet, Larry, R. D. No. 3, Rockwood, Pa. Fishing without a license 25.00

WARREN COUNTY

Keller, James, Main Ave., Warren, Pa. Operating motorboat without displaying license plates 5.00
Speas, Howard L., Youngsville, Pa. One undersized trout 10.00

WASHINGTON COUNTY

Plut, Joe A., Box 331, Fredericktown, Pa. Illegal device 20.00
Yeager, Gerald F., 408 Monongahela Ave., Charleroi, Pa. Fishing without a license 25.00

WAYNE COUNTY

Beardsley, Eugene, White Mills, Pa. One bass in closed season 10.00
Utigg, Henry, 776 Ridge St., Honesdale, Pa. One bass in closed season 10.00

WESTMORELAND COUNTY

Goodwin, Flay, R. D. No. 1, Lemont Furnace, Pa. One undersized bass 10.00
Pular, Steve, Box 21, Leisenring, Pa. One undersized bass 10.00

WYOMING COUNTY

Davidson, Robert, River St., Tunkhannock, Pa. Exceeding creel limit 120.00
Sanda, Stanley, Tunkhannock, Pa. Exceeding creel limit 50.00
Taylor, Albert, Laceyville, Pa. Operating motorboat without a license 5.00

YORK COUNTY

Godfrey, Jacob, R. D. No. 1, Felton, Pa Exceeding creel limit 10.00
Roach, Russell, 504 Maple Ave., York, Pa. Operating motorboat without displaying license plates 5.00
Smith, Roy J., 465 W. Hope Ave., York, Pa. Fishing without a license 25.00
Wallick, Charles, 512 Boundry Ave., York, Pa. Operating motorboat without displaying license plates 5.00

OUT OF STATE

Houck, Richard M., 825 Bradford St., Dover, Del. Fishing without a license 25.00
Martin, Richard B., 1667 Good Hope Rd., S. E. Apt. 18, Washington, D. C. Fishing without a license .. 25.00
Aumont, Leroy H., 1654 N. Harding St., Chicago, Ill. Fishing without a license 25.00
Farley, James, 400 Walnut St., Cumberland, Md. One frog in closed season 10.00
Park, Robert, 196 Hollinsworth Manor, Elkton, Md. Fishing without a license 25.00
Park, Robert, 196 Hollinsworth Manor, Elkton, Md. One bass in closed season 10.00
Dunchock, Edward P., 2848 Amazon St., Dearborn, Mich. Fishing without a license 25.00
Horan, Richard, 491 Stuyvesant St., Trenton, N. J. Fishing without a license 25.00
Rudnick, Jack, 636 Sanhican Dr., Trenton, N. J. Fishing without a license 25.00
Brewer, Erving E., 374½ Broad St., Waverly, N. Y. Fishing without a license 25.00
Hall, Wm. H., 137-43 Mulberry Ave., Flushing, N. Y. Fishing without a license 25.00
Laforo, Albert, 2801 Gunther Ave., N. Y. C., N. Y. Fishing without a license 25.00
Griffin, Fletcher, 2337 E. 29th St., Cleveland, Ohio. Fishing without a license 25.00
Jenal, Phil, 3288 W. 98th St., Cleveland, Ohio. One undersized pike perch 10.00
Schmidt, Julius A., 1850 E. 81st St., Cleveland, Ohio. Fishing without a license 25.00
Korney, John, 525 E. 246th St., Euclid, Ohio. Fishing without a license 25.00
Morgan, George W., 1601 Payne Ave., Cleveland, Ohio. Operating a motorboat without a license 5.00
O'Neill, Wm. J., Box 2085, Windham, Ohio. Fishing without a license.. 25.00
Sisk, Wm. E., Maue, Oklahoma. Fishing without a license 25.00
Gore, Magnolia, Carolina, W. Va. Fishing without a license 25.00
Bice, Ward J., Route No. 1, Watson, W. Va. Fishing without a license 25.00
Morgan, Dale L., Route No. 1, Watson, W. Va. Fishing without a license 25.00
Rinehart, Wm., Fairmount, W. Va. Fishing without a license 25.00
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School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

Seed Time

MAN in the Temporate Zone has always regarded autumn as the time of harvest. In his smugness, he has regarded this season as his . . . when the earth blesses him with its crops. But to old Mother Nature, man is a recent upstart. She was preparing her species for the approaching winter and the coming year long before man made his appearance.

For most plants nature causes the species to live through seeds. A typical seed is covered by a tough seed coat and beneath is the new plant to be, plus food stored for the embryo to use until it can make food for itself.

Plants with parallel-veined leaves, like corn, have their food stored in the seed in one mass; plants with net-veined leaves, like lima beans, store their food in the seed in two parts. Should you soak a bean seed and a kernel of

corn, the bean seed soon splits into halves; the kernel won't.

The tiny plant is part *plumule* and part *hypocotyl*. The plumule will grow upward, defy gravity, and become the stem and leaves. The hypocotyl becomes the root, obeys gravity, and anchors the plant in the soil. Why does the stem grow up and the root grow down? We spent a good many hours in college arguing this question. I asked an old farmer, and he dismissed the question as just the "nature of plants."

Dispersal of Seeds Necessary

Most plants have some way of sending their seeds forth to seek their fortunes, and at this time of year great resourcefulness is evident. The seeds must not fall beneath the parent plant for two reasons: (1) The shade of the home tree would make growth difficult for the offspring; (2) the offspring would take water and minerals from the soil, and these are essential to the continued health of the parent. So seed dispersal makes the struggle for existence less difficult.

Ways of Dispersal

One of the commonest ways of getting seeds away from the parent plant is used by most of the members of the rose family. Here a fruit, tasty and beautiful, is produced. Animals come to the tree and carry away the fruit . . . and the seeds. The peaches, apple, plum, cherry, etc. . . . all have the pit or seed in the flesh; the strawberries, raspberries, etc., have the seeds on the surface.

Milkweeds, thistles, wildlettuce are examples of those plants that depend on the wind for seed dispersal. Perhaps the seeds of no other plants get so far away from home as these do. You might work out an excellent project by making a collection of wind-borne seeds. The "puff" of the milkweed and the "parachute" of the dandelion are both very efficient yet quite different The maples, ashes, and elms have no puffs, but "wings" that catch a breeze to twirl them away from the old tree. The seeds of cattail, clematis, cottonwood, sycamore, cotton, and basswood are also carried by the wind.

A number of plants have spring-like arrangements that snap the seed out into space. Some of these, like the touch-

me-not and the witch hazel, are most ingenious.

Everyone is familiar with the clinging seeds that sometimes make an autumn walk long remembered. These are the burrs, bootjacks, beggar's ticks, and others that often have local names that are less respectable. A cow's tail may become almost a club with the accumulation of burrs she unwittingly collects in a field in autumn.

A few like the lotus and coconut depend on the water for dispersal.

An interesting exception to the rule that seeds leave the parent is the case of the "tumbling tumbleweed" where the parent leaves the seed. This roundish plant is so shallowly rooted that the fall winds tear it loose and over and over it rolls. As it whirls, its seeds are left behind, and the plant may be wind-propelled hundreds of miles until it is caught and held securely by a barb-wire fence.

Chuck, the Warden, says:

Autumn is maturing time. Our human species, unlike the million species of plants and other animals, is the only one that can mature *mentally* as well as physically. But certain members of our species never do. They never "grow up" mentally. At seventy they are as enslaved to their favorite superstitions, vices, prejudices, unwise habits, worries, fears as were their pagan ancestors. You weren't born with superstitions, prejudices, or fears. You acquired them from unwise elders as they did from theirs. But this vicious circle needn't turn on forever if you will substitute facts for the fiction of hearsay.

MATCH QUIZ

Food Plant	*Where It Originated*
—1. Water melon	A. New England
—2. Sweet Potato	B. Sweden
—3. Irish Potato	C. West Indies
—4. Cranberry	D. Chile
—5. Soy Bean	E. India
—6. Brussels Sprouts	F. Ethopia
—7. Rutabaga	G. Iran
—8. Musk melon	H. China
—9. Cucumber	I. Belgium
—10. Radish	J. Manchuria

Answers

1—F, 2—C, 3—D, 4—A, 5—J, 6—I, 7—B, 8—G, 9—E, 10—H.

PENNSYLVANIA Angler

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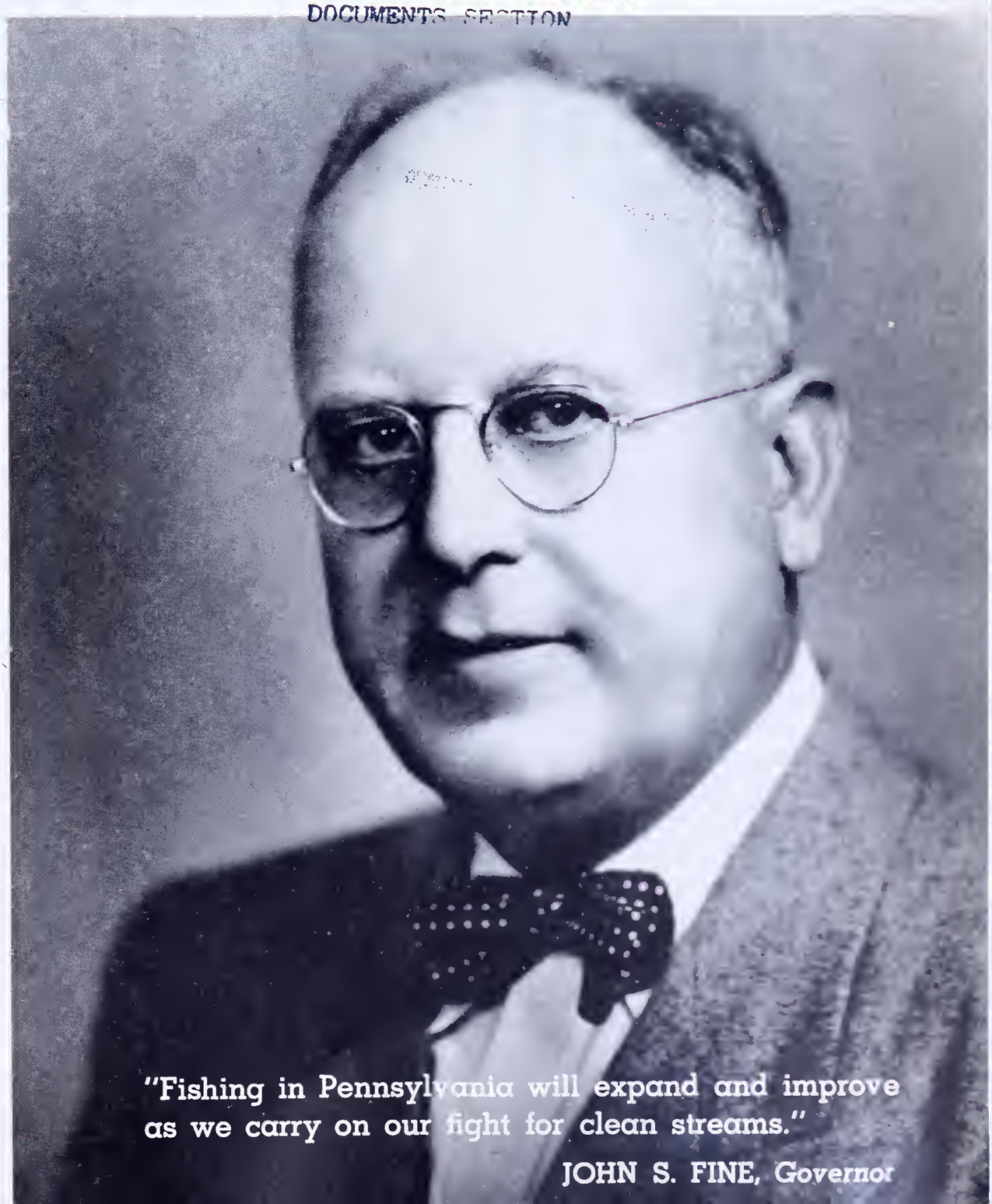

"Fishing in Pennsylvania will expand and improve as we carry on our fight for clean streams."

JOHN S. FINE, *Governor*

OCTOBER
1951

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a great state

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A Commonwealth constantly striving for, believing in, seeking to conserve, protect and improve its rich heritage of natural resources . . . forests . . . waters . . . and wildlife.

PROUDLY WE OBSERVE!

PENNSYLVANIA WEEK—1951
OCT. 15 - 21

COMMONWEALTH OF PENNSYLVANIA

HON. JOHN S. FINE
GOVERNOR

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PENNSYLVANIA Angler

J. Allen Barrett—Director ..... Division of Public Relations

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from the Editor's Angle

Attention Experts!!! Dig Out Your Record Books . . .

We received the following letter from Mr. Shoff who asks if his fish might be a world's record for inland waters:

Dear Sir:

Enclosed is a snapshot of a walleye, 36 inches in length and weighing 12 pounds, taken on a spoon bait in the Allegheny river below Tionesta with spinning rod and reel, 4-lb test line. The girth of the fish was 15⅜ inches.

I would like to know if this is a record walleye for inland waters. I know the world's record is 36¼ inches and 22½ pounds, a walleye taken in Lake Erie at Fort Erie, Ontario. But I'm hoping my fish may be the largest for inland waters. If you have information on this please advise.

FIRMAN SHOFF

Ebensburg, Pa.

We wrote Mr. Shoff that some experts figure Lake Erie to be inland waters, that is, any waters not affected by tides are classified as inland. However, we'd like you experts to dig out your record books and advise the ANGLER just where the fish caught by Mr. Shoff stands and whether it may be worthy of putting down as a record for spinning rod and reel, 4-pound test line even if it does not top the Fort Erie fish.

FIRST AID FOR MINNOWS!!

You've heard of BLOW FISH but what about FISH BLOW?

I would like to pass something along to the readers that is so unusual to me that it almost rates as a phenomenon. Perhaps this incident would be perfectly natural to a fish culturist or a scientist, but I am sure not many fisherman ever saw it happen.

Not long ago some friends and myself were fishing the Allegheny River on a hot and sultry day and the fish were blind as far as plugs were concerned so we decided to catch a few chubs and sit down for awhile and wait for evening. We caught a half dozen large chubs in a riffle and put them in a bucket of the "minnow-saver" type. Normally, minnows keep for a very long time in this type of container so we didn't bother to check after we caught them.

After a drive to another spot on the river we prepared to fish with the minnows and upon opening the lid we discovered the fish to be floating on their backs much to our consternation. We were very disappointed as we had wasted a lot of time in catching them. We then figured the unusually hot weather was responsible for these fish to be practically dead. I say "practically," because we could detect a slight movement of the gills, indicating a spark of life.

More out of devilment than anything else I guess, Norman May of Verona, Pa., took one of the chubs in his hand and said with a grin and a twinkle in his squinty blue eyes, "I'll give him some artificial respiration."

Both Fred and I laughed. "I didn't bring my fish oxygen mask," I said. "I'll get my tire pump," Fred exclaimed.

But our laughter changed to incredulity when Norm blew down the fish's mouth and put the fish into the bucket. The fish was swimming! We all gaped in amazement. I think we must have said, "What the h———?"

We hurriedly grabbed all the fish and blew down their mouths and soon we had a bucket of live minnows with one exception. We changed the water quickly and carried away our supply of revived bait, which were apparently none the worse for their experience.

But our little life saving efforts didn't do any good. I think the bass needed someone to blow down their mouths!

Submitted by
JACK L. CARLBERG,
Oakmont, Pa.

Sir:

It is a satisfaction to receive the ANGLER and to read the interesting and instructive articles.

The following may be of interest: While on a visit to Booth Bay Harbor, Maine, a native of that state took me to a lake to fish for landlocked salmon. He had a clever way of catching minnows without hooking them. He had a minnow bucket filled with fresh water close to where he fished for the minnows. He would then impale a worm through the head, leaving most of the worm hanging free of the hook. The minnow gorged the worm. He then lifted it up and over the minnow bucket By that time the minnow had disgorged the worm and fell, uninjured, into the minnow bucket.

I may get in wrong with fellow fishermen but I'll take my chances, an answer to this question is what I greatly wish —"DOES FISHING MAKE MEN LIARS OR DO ONLY LIARS FISH?"

Hiram S. Kremer

Lisburn, Pa.

We refer Mr. Kremer to Bill Wolf's defense of fishermen in his

article appearing in this issue of the ANGLER, "Are Fishermen Liars?" We believe Mr. Kremer, after reading it, will come to his own conclusions.

FISHING

When the breakfast chores are over
And there's nothing else to do,
Blue sky and crystal water
Seem to be inviting you.
I like to go a-fishing
When the bass are running fine
And see the rod a-bending
With a bass upon a line.
First he nibbles—then he grabs it
Oh, the rapturous joy you feel
As a great big fine two-pounder
Starts the singing of the reel.
In my pleasant hope of Heaven
This is my fondest wish
Somewhere within the pearly Gates
There'll be a place to fish.

Bennett Chapple

FOR MEN ONLY

I saw her swimming in the brook,
A moment swift and fleeting,
And from the shock of that brief look,
My heart almost stopped beating.
I worked my way around the trees,
To where the view was clearer,
And then on trembling hands and knees
I edged a little nearer.
I never saw such perfect lines,
As she was there displaying
Beneath the shade of spreading pines,
In languid splendor playing.
Her twists and turns were full of grace,
Her body smoothly molded,
I know the joy showed on my face,
As each new charm unfolded.
And when she floated with the stream
The sight was most entrancing
Her wondrous body seemed to gleam,
From sunbeams, softly glancing.
I yearned for her with heart and soul,
And then I fell to wishing,
For I had neither hook nor pole,
And trout are caught by fishing.

South Dakota Conservation Digest

People, like boats, toot loudest when they're in a fog.

Dear Editor:

Please . . . 2 years subscription! My! How you have improved.

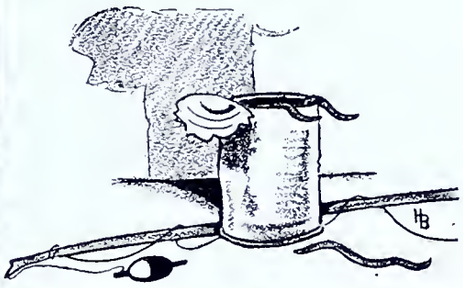
Paul H. Wueller

Duncannon, Pa.

There are too many people in too many cars in too much of a hurry going in too many directions to nowhere for nothing.

The man who wakes up and finds himself a success hasn't been asleep.

Anglers, Jr.



Thirteen-year-old Charles Blass, of Erie had good luck recently when he landed a 36½-inch muskie. The youngster is a member of the Junior Sportsman's League.

Dear Sir:

While fishing in Lake Nuangola with his dad, Bobbie Opachinski hooked these two nice largemouth bass. One weighed 6½ pounds, 21 inches in length, the other, 5½ pounds, 20 inches long.

Bobbie is always with his Dad on every fishing trip and sure is a good fisherman. (Note—The boy caught these fish on a fly rod.)

Jack Opachinski
Deputy Fish Warden

Nanticoke, Pa.

Dear Editor:

Here is a photo of Sammy Buzard of New Brighton, Pa., with a 20½-inch small-mouth bass taken from the Allegheny river near Tidioute using a soft shell crab for bait. Sammy is 8 years old and he had no help from older persons as he and another boy the same age were fishing in a boat when the big fish was caught.

Ross Bailey,
State Fish Warden

Youngsville, Pa.

Sly Lake, or Sly Pond, in Wayne County, is another natural, spring-fed lake. It has an area of 52.5 acres and many fine weed beds, such as are shown in this picture.

Pennsylvania Lakes

Glacial Lakes and Man-Made Reservoirs of Northeastern Pennsylvania Are of Outstanding Importance.

By Richard F. Williamson

Photographs by George Gordon
Official Photographer, Pennsylvania Fish Commission

In the broad expanse of the state of Pennsylvania are to be found almost all types of fishing waters known anywhere in the world. There are tiny mountain brooks, creeks that flow through hilly valleys and meander across farm lands, broad rivers, and lakes and ponds of all sizes.

Of outstanding interest to fishermen and other lovers of the outdoors are four groups of public waters in the Keystone State. They are the lakes of Northeastern Pennsylvania, the trout streams of Central Pennsylvania, the lakes of Northwestern Pennsylvania, and the big river dams in Southern Pennsylvania.

This article is the first in a series describing these four groups. It deals with the lakes of Northeastern Pennsylvania.

TENS of thousands of years ago the greater part of the northern portion of Pennsylvania was buried under a gigantic mass of moving ice that flowed down into the state, like vast frozen rivers, from several directions.

Several score years ago, when canals were one of the principal arteries of transportation in this State, engineers dammed up streams in certain sections of the State, notably the northeastern portion, to provide reservoirs of water which could be released into the canal system as needed to keep those waterways in operation.

Because of nature's acts during the glacial period and man's work during the days of the canals, the northeastern counties of Pennsylvania are dotted with a great many lakes and ponds ranging in size from a few acres to several hundred or more.

This network of lakes and ponds has become a great playground. People residing in New York, Philadelphia, and other metropolitan districts swarm to these water areas in search of rest and recreation. Fishing is one of the major forms of recreation they find and enjoy there.

Some are well known fishing places, the sites of summer homes

and camps and public resorts. Others, nestled into the rugged hills, still are "back of beyond." All are great links in the vast water system found in the Keystone State.

Glacial lakes are the most numerous. An interesting account of how they were formed is to be found in a portion of a report by the State Commissioners of Fisheries to Governor Daniel H. Hastings in the year 1896.

"For many years it was supposed that the mountain lakes of Pennsylvania were created through glaciers scooping out great holes in the earth, but later investigation seems to prove otherwise," this report states. "It is now definitely determined that the lakes of Pennsylvania generally were caused by two other and entirely different means.

"One cause was the damming of a stream by the debris carried by the rivers of ice that once blanketed the area—debris which was deposited on very definite patterns as the ice blanket melted and receded northward. The other cause were springs opening into natural depressions in the surface of these deposits of debris, which geologists call moraines.

"The lakes formed by one or the other of these causes are readily identified by the merest tyro in geology. Any lake having a well-defined stream flowing into it was almost certainly formed by the obstruction of that stream, and any lake which has no regular inlet but receives its supply of water exclusively from springs on its bottom or sides is a lake formed in a natural depression on a moraine."

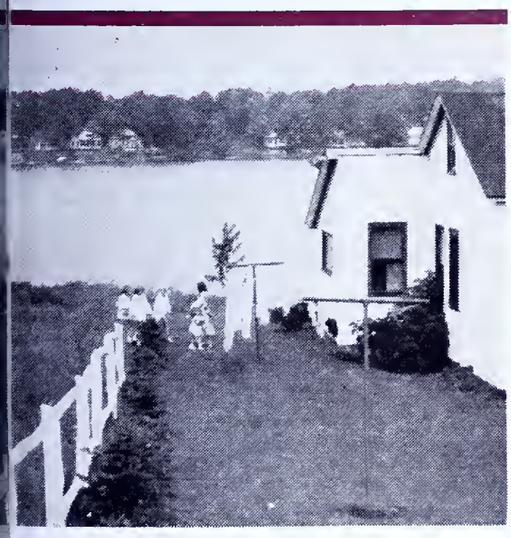
In early days these natural, glacial lakes supported a rich fish population. Their original species included the chain pickerel, yellow perch, the common sunfish, bullheads, golden shiner minnows, suckers, and eels.

In those unspoiled days the lakes supported a rich fish life because they lay in regions of virgin timber and soil, were not subject to the forces of erosion.

Once this region was opened to exploration and exploitation, man, in his ambition to improve upon nature, in many instances not only cut the timber and cultivated the soil but also stocked the smallmouth bass, the largemouth bass, the walleyed pike, rock bass, calico bass, and other species of fish in these waters.

Whether this has been an improvement over nature's own balance of existence is a debatable subject, and one in which the fish management program of the Pennsylvania Fish Commission is very much interested at the present time.

Many of these lakes already have been studied. Others are on the program for investigation.



er homes have been constructed on many of the This is a view of Fiddle Lake, in Susquehanna y. It has a capacity of 197,000,000 gallons of water fed by springs.

The hotel at Poyntelle is typical of the recreational activity that has sprung up in the lake area of Northeastern Pennsylvania. From the roof of this hotel, the visitor can see five natural glacial lakes—Poyntelle, Five-Mile, Big Hickory, Little Hickory, and Bone.

Lake Como, in Wayne County, has a capacity of 242,000,000 gallons. It is a natural lake, but the construction of a dam there has increased its size. The inlet of the lake is a branch of Equinunk Creek.

When the studies have been completed, a revised program for the stocking and management of these waters will be developed.

For a number of years our fisheries technicians have been working in Northeastern Pennsylvania. The study of these lakes and ponds from a management point of view is a never-ending task. Lakes change, and so they must be studied and re-studied, checked and re-checked if they are to be properly managed.

Many years ago, before modern highway systems were developed, fishermen had to make tedious railroad trips, stay overnight in strange hotels, and endure many other inconveniences to reach these beautiful bodies of water. Today virtually all are easily accessible to the angler, and in many instances have been built up so that during the summer months they more resemble a metropolitan community than a "place to get away from it all."

Bradford, Wyoming, Pike, Susquehanna, Luzerne, Lackawanna, and Wayne Counties are the important lake counties of northeastern Pennsylvania. In these seven counties the Fish Commission stocks 13,826 acres of water.

Five lakes in the area are outstanding examples of glacial lakes.

Lake Como, in the north-central part of Wayne County, is a crystal-clear lake which is much like the lake in Switzerland from which it is supposed to have gotten its name. It is high in elevation, a lake of unsurpassed beauty, and it caters to an exclusive clientele. Its many visitors return summer after summer, and there is a camp for boys and girls which has a very high rating. This lake has a drainage area of 3.1 square miles and is a water area of 80 acres. Although it is a natural lake, erection of a dam some years ago flooded an additional area. Its inlet is a branch of Equinunk Creek, and it also is fed by natural springs.

Lake Poyntelle, also in Wayne County, has a drainage area of about one square mile and a water area of 63.5 acres.

Before the advent of automobiles, railroad excursion trains were run into Poyntelle, and it was known throughout the Lackawanna Valley as an excursion center. On this lake the first steamboat operated for pleasure made its appearance in that section of the State.

Today Lake Poyntelle has been taken over by summer camps for boys and girls, but it is open for public fishing and other recreation. The lake is located near the village of Poyntelle, on State Highway Route 370. From the roof of the local hotel, five glacial lakes can be seen.

Harmony Lake, which also is known as Big Pond, lies in Northeastern Carbon County. It has a drainage area of about three square miles and water area of 110 acres and is fed by springs. This lake is extremely deep, and much of its bottom is strewn with boulders.

Harvey's Lake is one of the largest natural, glacial lakes in this section of the State. It is in North-central Luzerne County and has a drainage area of about seven square miles and a water area of more than 650 acres. It is comparatively deep. Two small streams flow into the lake, and some of its water comes from springs. This is probably one of the glacial lakes formed by the damming of a stream.

Lake Carey, in north-central Wyoming County, has a drainage area of 4.5 square miles and a water area of 262.6 acres. Its inlets are two streams and numerous springs.

There are many more of these glacial lakes, of course, but the ones that have been described briefly are good illustrations of this particular type of water.

Man-Made Reservoirs

The second type of water found in the northeastern area of this State are man-made reservoirs—many of them created, as has been explained, to augment the supply of water that maintained the old canal systems.

The dams that created these reservoirs were built in many instances more than a century ago. Many are in good condition today, requiring a minimum of maintenance.

In most instances they were built on the headwaters of small streams, and the engineers who

(*Turn to Page* 28)

The Barrel

AROUND the Pleasant Mou State Fish Hatchery they ca it the Barrel That Talks.

But Thomas F. O'Hara, co struction engineer of the Pennsy vania Fish Commission, says it just a gadget that he made out a discarded oil drum.

At the hatchery is a battery troughs in which young bass a reared. They require a consta flow of fresh water, which moved from a nearby pond by a electric pump.

Should the electric pump fa the flow of water would stop ar the young bass would die. Ar since it would be costly to keep watchman on guard at all times, note a case of power failure, M O'Hara got busy with his oil drun

He installed it at one corner the battery of troughs. Water fro the electric pump line flow through the oil drum into th pumps. At the top of the drum th engineer installed a float that cor trols a simple valve on anothe water line running to the trough from a storage pond a few fee away.

So long as water flows throug the pump line, the float is high i the barrel and keeps the emer gency valve closed. But should th flow of water through the pum fail, the barrel drains, the floa drops, the emergency valve opens and water flows by gravity fron the storage pond into the trough until the electric pump is back i action.

Right—Here is a closeup of the Barrel That Talks, installed at one corner of the battery of bass troughs. The large pipe in the foreground runs from the water storage pond nearby. In the background is the pipeline that regularly supplies water.

That Talks

By Richard Wiliamson

Left—The whole layout is seen here. At bottom center is the electric pump, with a water line running to the bass troughs. In the background is the storage pond from which water moves through the Barrel That Talks in event of electric power failure.

Poised For National Emergency

Fish Commission Exhibits Its Equipment

Pennsylvania Fish Commission's National Emergency Facilities at a Glance

Mobile-Laboratory—Available on Moment's Notice . . . For Service in stricken Areas of the Commonwealth . . . in a Critical Emergency.

Field Force of 51 Fish Wardens—Equipped and Alerted . . . for Sabotage on Domestic Reservoirs Coordinated for Protection against and Relief from Flood, Fire and Disaster.

Fleet of 47 Trucks—Available on Moment's Notice for Transportation of Water . . . to Stricken Areas in event of any National Emergency.

Home Bases from which Trucks can be dispatched

Location	*County*	*No. Trucks*
Bellefonte	Centre	15
Corry	Erie	6
Huntsdale	Cumberland	7
Linesville	Crawford	4
Pleasant Mount	Wayne	7
Reynoldsdale	Bedford	4
Tionesta	Forest	2
Torresdale	Philadelphia	2

UNDER the auspices of the Pennsylvania Civil Defense Commission, an exhibition presented on the Indiantown Gap Military Reservation was conducted over the week-end, August 24, 25, 26, 1951. The various departments of the Commonwealth having equipment and personnel which can readily be integrated into a state-wide defense unit, were assembled for inspection by the Civil Defense State Authority and the respective County Civil Defense Units.

The Pennsylvania Fish Commission occupied a very prominent position with their exhibit, illustrations of which are submitted herewith to the readers of THE PENNSYLVANIA ANGLER. The equipment exhibited included one of the Commission's fleet of 47 tank trucks used in the distribution of fish, all of which can readily be converted into an emergency transport of water to hospitals and similar institutions. This service was further illustrated with a large map of Pennsylvania showing the location of these trucks and the number located at each base. In event of a national emergency these trucks could start rolling loaded with pure spring water at a moment's notice.

The Fish Commission's mobile-laboratory, also in the line-up, presented the availability of its service in that it too is available for being dispatched to any stricken area of the Commonwealth for the relief of distress and for the administration of medication to injured.

Aligned with the exhibit is one of the Pennsylvania Fish Wardens representative of the Commission's field force of enforcement officers. This Warden symbolizes the force of 51 Fish Wardens located throughout the Commonwealth performing their duty of enforcing the laws regulating public fishing in Pennsylvania and who are equipped with heavy binoculars with which they search the shores of impounding reservoirs for suspicious activity and scan the skies for any suspicious aircraft which

in turn is immediately dispatched to the respective local Civil Defense Filtration Centers.

The overall exhibition attracted wide attention and was of important interest to the various county units of the State Defense Commission. Highlighting the three-day exposition was the assimilation of actual bombing of a specially constructed hamlet, which was reduced to rubble. Other demonstrations included rescue work by the various first aid units and rescue crews of the coal mining industry of Pennsylvania.

The overall program presented an excellent picture of the thoroughness with which the State of Pennsylvania is coping and aligning its resources for the protection of its citizens and property in the event of enemy bombing.

Above—Visitors inspected the Commission's mobile-laboratory which is one of the finest field biological laboratories on wheels. Normally it is used for the Fish Commission's program of fisheries management and travels all over the state conducting surveys and analyses of streams and lakes and ponds incidental to the stocking of fish for public fishing.

A moment's relaxation from the gruesomeness of this exhibition is provided with a copy of THE PENNSYLVANIA ANGLER to the visiting county units.

At left—This large map of Pennsylvania mounted on two of the easels illustrates the locations of the state fish hatcheries operated by the Pennsylvania Fish Commission and reveals the number of fish-distribution tank trucks located at each. Red lines from the hatcheries converge at the central field headquarters at Bellefonte in Centre County from which point a gold line ties the entire structure to the central offices in Harrisburg. This fleet of trucks can render valuable service in the supplying of water for domestic purposes in case of emergency, and these trucks can be dispatched at a moment's notice.

Below—An overall view of the Commission's exhibit.

STREAM PATRO

FISH Wardens are always suspicious when they observe an automobile along a stream the license plate of which belongs to a former fish law violator. And it was just such a situation which prompted our sitting in the car in a clearing back off the highway from which point we could see in the distance the figure of a man fishing in the broad pool of a big creek.

He opened the front door of the car, took something from a canvas creel over his shoulder and put it inside the car. Only then did he perform the usual ritual of opening the car trunk, pulling off his boots and dismantling his rod.

"This is it!"

The words of State Fish Warden Carl A. Bidelspacher, of Williamsport, broke a tense silence. We had sat in his car nearly an hour after, rounding a bend in the road that parallels the stream, we had seen this car parked along the highway in the shade of a clump of trees.

The Warden had stopped as quickly as the car was in sight. He told me the story.

"It belongs to a man who two years ago was convicted of dynamiting a trout stream. He has contempt for fish laws and for officers, and his contempt makes him sly and clever."

Warden Bidelspacher had driven his car off the road into a spot where it was well hidden from view and yet from where he could keep the parked car in sight.

"It would do no good to accost that man on the stream," the Warden continued. "The moment he saw a uniformed officer—or any stranger, even another fisherman—he would be immediately suspicious if he were engaged in some law violation. We'll wait here in the car until he quits and gets ready to leave."

So we had sat almost an hour until the man returned to his car and was about to drive away. Then the Warden stepped quickly into the road and approached him. He was greeted with snarling curses.

"Can't a man fish without one of you guys showing up?" the fellow barked.

"I'm a State Fish Warden," replied the uniformed officer quietly. "May I see your license?"

The button was in its proper place on the fisherman's hat. The paper license he produced from his wallet was in order.

"I suppose you want to search the car too," the fellow began before the Warden could make any comment. "Go right ahead. There are no fish in this lousy creek."

With the words he walked to the rear of his car and swung up the lid of the trunk. It was filled with the usual conglomeration of fishing gear.

"Anything else you want?" snarled the man.

"Yes," replied the officer—and I marveled that he still kept his temper. "I'd like to look inside the car."

There were no angry words, for a change. Only a shrug of the shoulders as the officer opened the front door and looked inside. But the fisherman's face turned white as the Warden flipped open the glove compartment and lifted out two bass obviously not more than seven inches in length.

That fisherman is awaiting disposition of his case by a justice of the peace. He probably will face a revocation of his license in addition to payment of a fine.

But——

"A case like that can spoil a whole day," Warden Bidelspacher told me as we drove away. "We wardens feel good when we see fishermen obeying the laws. But when we have to make arrests we feel, somehow, that the lessons of true sportsmanship are not being learned and that we have failed in our jobs somewhere along the line."

It is a big responsibility—this job of being a State Fish Warden. My host on this afternoon trip, Warden Bidelspacher, is a veteran of many years in the warden service. Recently he became supervisor of the north-central division of the State, a territory including Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Snyder, Tioga, and Union Counties.

The work he did this afternoon —and the views he expressed— could just as well have come from any other Warden who is a hard-working, conscientious officer of the law.

Warden Bidelspacher outlined for me some of the duties of the

Pennsylvania Angler assigned one of its writers to make a routine patrol with a State Fish Warden. Here is his story of how the law-men of the Pennsylvania Fish Commission work.

By Dick Fortney

(Photographs by the author)

wardens—and I quickly learned that they go far beyond the task of checking licenses and measuring fish, which is about all the average angler thinks a warden ever does.

The Warden is responsible, for one thing, for carrying out the orders of the Fish Commission in stream stocking.

The commission has a staff that decides how many fish and what varieties shall be stocked in what parts of any stream that is open to public fishing. When a truck-load of fish goes to a stocking point, it is the duty of the Warden in that area to see that the valuable cargo is distributed as the commission has planned.

The Warden must be constantly alert to stream conditions — and especially on the watch for threats of pollution.

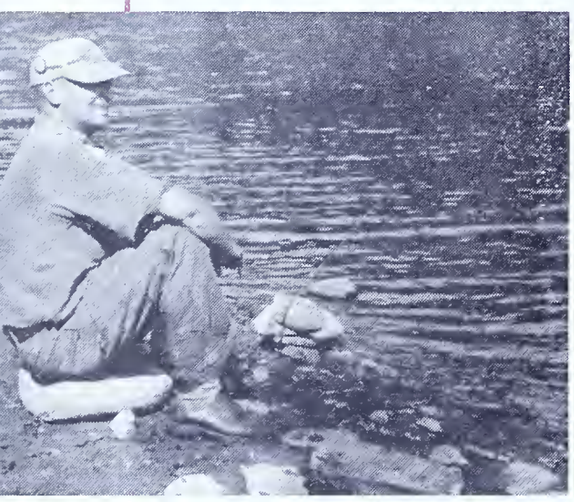
That is why, a little later on our trip, we stopped in the vicinity of a fine trout stream where gas drilling operations are in progress. The Warden wanted to see for himself that the sump dug to catch the silt and muck from the drill rig was in proper order, so that none of this waste material made its way into the stream nearby.

A cannery, a tannery, or a creamery along a public stream must be periodically checked. All coal operations near open streams likewise are kept under careful observation.

↑ One of the Fish Warden's jobs is to see that fish are stocked in the streams in strict compliance with the program of the Pennsylvania Fish Commission.

← Warden Carl A. Bidelspacher points out on a map the route we will follow on our patrol.

John Jennis, of Shamokin, looks up with a friendly grin as the Warden approaches the spot where he is fishing.



The Warden must be a storehouse of information too. That fact became pretty obvious later when the Warden stopped his car at the side of a deep pool, and we walked toward two men who were fishing.

This was an entirely different meeting than the first one of the afternoon had been. The two fishermen greeted us with broad grins, got up off the rocks on which they were sitting, and stepped forward.

"Hello," said one. "Isn't this a swell day to be out?"

The Warden introduced himself and me, explaining that I was doing an article for THE PENNSYLVANIA ANGLER.

The fishermen were John Jennis and Clarence Fry, both of Shamokin. They had come to Lycoming County to do some fishing, and admitted they hadn't caught anything yet. But they got a big kick out of being photographed while Warden Bidelspacher examined their licenses and checked the contents of their bait bucket.

"Say, Mr. Warden," said Fry as we were about to leave, "will you explain this new pike law for us?"

"All that's new about it," was the Warden's reply, "is that beginning the first of September the legal size of a pickerel is 15, instead of the old limit of 12 inches."

"That was an easy one," the officer told me later. "These fishermen ask a lot of questions, and we wardens have to know the answers.

Keeping a check on stream conditions is still another job of the Wardens. We spent some time walking along a path that parallels Slate Run, a fine trout stream. The water was low and clear, and there were plenty of trout—and some big ones—in the pools.

"It's this way in the larger holes all the way up Slate Run," the Warden explained. "It's a real satisfaction to report this summer that there is a fine carry-over of trout in this beautiful stream."

Fish Wardens have a scientific side to their jobs too. From many anglers they meet along the streams they ask and get information on such subjects as the hours spent in angling, the kind of baits used, the species, number, and size of fish caught, and weather and water conditions.

As often as possible, also, the Wardens measure and weigh bass that anglers have caught, determine their sex by opening them, and take small patches of scales from their sides.

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↑ Jennis and his companion, Clarency Fry, show their fishing licenses to the Warden.

→ The Warden checks the bait bucket of the two anglers to make sure they are complying with the law. They are.

CONSERVE OUR MINNOWS

By William Boyd

While we're in the process of conserving our game fish, wise anglers will also conserve minnows upon which game fish feed. The minnow might seem insignificant in the scheme of angling but their importance to our waters should not be underestimated. The supply isn't inexhaustible.

WHILE most anglers have little or no difficulty getting minnows they desire for bait fish, the demands on those streams where redfins may be had are such that the time may come, and that not too far distant, when bait fish will be scarce.

Even now those who are not familiar with streams — mostly small ones—where minnows are numerous complain of the effort they must make to procure their favorite redfins.

Because they are more numerous and more easily netted, minnows now are being used for bait by many who formerly depended upon stone catfish or hellgrammites.

Now the angler who has time for only a day or part of a day for fishing each week can't spend the time necessary to get hellgrammites or stone catfish to use as bait, for both of these bait fish and fish bait are scarce and hard to get and are becoming increasingly scarce.

Consequently the demand on the minnow supply is increasing steadily even though there are many fishermen today who use nothing but artificial lures.

In the case of minnows, both trout fishermen and those seeking bass and walleyes use them, so the demand for redfins begins in April and continues until late autumn, whereas stone catfish and hellgrammites are sought only during July, August, September, October, and November, the months when bass may be caught legally in Pennsylvania.

It is true that bait supply houses which get their stock-in-trade from states other than Pennsylvania and via special permit sell these foreign-bred minnows to anglers patronizing Pennsylvania streams have relieved to some extent the demands on bait-producing streams in the Commonwealth.

But often the minnows which are imported are not as attractive to Pennsylvania game fish as the little fish upon which the large ones are accustomed to feed, and therefore the bait procured from licensed bait houses does not yield the fish the native-grown bait fish do.

Anglers who have learned this is true, therefore prefer to net their own redfins even though this activity cuts down considerably on their available fishing time.

All this makes it increasingly imperative that every effort be made to conserve the minnow supply in Pennsylvania else the time may come when the minnows will fall short of the demand and anglers will complain of a condition which they themselves have helped to create.

Anglers who prefer minnows as bait will be doing themselves a

(*Turn to page* 25)

HATCHERY HEADS MEET AT BELLEFONTE

First Row Sitting: Fred K. Riedel, Supt.; C. R. Buller, Chief Fish Culturist; Thomas O'Hara, Chief Engineer.
First Row Standing: Glenn Spencer, Asst.; John Pratt, Asst.; Metro Dorosh, Asst.; Howard Fox, Asst.; Jerry Zettle, Supt.; John Wopart, Supt.; Merrill Lillie, Supt.; Bernard Gill, Supt.; Edwin H. Hahn, Supt.; T. J. Dingle, Supt.; Niels Sorenson, Asst.; Philip Stark, Asst.; Robert Brown, Asst.
Second Row Standing: James Biddle, Asst.; Dewey Sorenson, Supt.; George Magargel, Supt.; Leon Van Gorp, Asst.
Third Row Standing: Gordon L. Trembley, Chief Aquatic Biologist; Edward T. Westlake, Jr., Asst. Aquatic Biologist; Arthur D. Bradford, Chief Fish Pathologist.

Personnel of the central field office, the hatchery superintendents, and some of their assistants met at the Fisheries Research Laboratory at the State Fish Hatchery at Bellefonte on Monday, August 27, 1951.

The day was spent going over the Bellefonte Hatchery and the proposed Benner Spring Research Project. On Tuesday morning the group left for the western part of the State and returned Friday evening.

On the trip to the western part of the State, Tionesta Hatchery, Corry Hatchery, Union City Hatchery, Erie Hatchery, and Linesville Hatchery were visited. While at Linesville the group also made a trip around Pymatuning Reservoir and visited the Game Commission Sanctuary.

This group of twenty-three men had an average of 22½ years service with the Pennsylvania Fish Commission. Fred K. Riedel, Superintendent of the State Fish Hatchery at Linesville, was the senior member with 44 years service with the Commission.

While at the Corry Hatchery, Mr. A. G. Buller, former superintendent of the State Fish Hatchery at Corry, Mr. P. H. Hartman, former superintendent at Erie, and Mr. T. R. "Rosey" Sorenson, former superintendent of the Reynoldsdale Hatchery—all retired—were guests of honor at a dinner held in Corry on Thursday evening.

It was also a great pleasure to have had the Honorable Philip Angle, Member of the Pennsylvania Fish Commission, and Mr. F. M. Geer, Member of the Sanitary Water Board, with the group.

EDUCATORS VISIT BELLEFONTE

Teachers who attend the Pennsylvania Conservation Education Laboratory for Teachers under the Supervision of Professor George J. Free of The Pennsylvania State College are selected from various parts of the State to come to State College for a course in conservation of natural resources. Their program of education includes a visit to the State fish hatchery at Bellefonte and a talk by officials of the Fish Commission about fisheries management and conservation.

The last group visited the hatchery on August 8.

The ANGLER welcomes letters from readers on any angling subject. Suggestions for future articles, news of the activities of our youthful anglers invited.

FISHING'S GOOD AT

"The Crooked-Mouthed Man's Dwelling Place!"

FISHING has been excellent this summer at "The Crooked-Mouthed Man's Dwelling Place." Or rather, as thousands of fishermen know it, at Pymatuning Lake.

Pymatuning, in the language of the ancient Delaware Indians, means "The Crooked-Mouthed Man's Dwelling Place."

That portion of the lake which is open to public fishing—the remainder being a huge wildlife sanctuary—is one of the finest fishing spots in Pennsylvania for walleyed pike.

Anglers not only from Pennsylvania but also from many neighboring states have been fishing the lake this summer and reporting excellent catches.

In fact, Pymatuning has produced since the very first day of the bass season this year, when S. Carlyle Sheldon, the Warden-Supervisor, sent a report to the Pennsylvania Fish Commission saying in part:

"We made a very comprehensive count of the fishermen who were using Pymatuning Lake. Everything available that would float was occupied. The boat liveries had all of their boats rented, and there was a waiting list of more than a score who had to be content with fishing from the shore until boats were available.

"Hundreds of persons brought their own boats and motors and were using them.

"We counted more than 20,000 persons who were fishing on the lake and from the shores. Of this number, about 6,500 were from Ohio, and the rest from Pennsylvania.

"It was next to impossible to get an accurate check on the number of fish that were taken, but through the cooperation of the boat liveries and other officers, we actually counted 2,300 walleyes, and they were obviously only a small percentage of the total catch.

"It was obvious that the majority of these fish were young, as the average was from 15 to 22 inches in length. I saw one 30-inch fish that weighed nearly ten pounds and several in the seven and eight-pound class.

"Bass fishing was better than usual, but the weather was not at all favorable, and the lake was rough all day."

ARE CARP GOOD TO EAT?

When the Pymatuning Reservoir was first opened up, people rushed in to fish this newly created area. Naturally, the Fish Commission sent in a corps of Wardens to supervise or to enforce the law. The Game Commission cooperated with the Fish Commission in its usual efficient manner and turned over a number of Game Wardens to the Fish Commission during the opening of the season.

These Game and Fish Wardens boarded with Mr. and Mrs. Burt Odett. Mr. Odett had charge of the Game Sanctuary at that time. Mrs. Odett served the hungry Game and Fish Wardens with fillet of fish. The men asked Mrs. Odett what these delicious fillet were and she "didn't know exactly." She "got them from the market and assumed that they came from Lake Erie."

After about the third day she broke down and told them they were Pymatuning carp that they caught and filleted—then they lost their taste!

RETIRED FISH COMMISSION EMPLOYEES WITH ALMOST A CENTURY OF COMBINED SERVICE

A. C. Buller

Philip Hartman

Mr. A. G. Buller and Mr. Philip Hartman were guests of honor at a dinner held recently at the Corry Hotel in Corry by employees of the Pennsylvania Fish Commission. Both of these men have an enviable record in the field of fish culture and fisheries management work and are greatly admired by all those who have had the privilege of being associated with them in their work in the years gone by.

Mr. A. G. Buller retired as superintendent of the State Fish Hatchery at Corry on July 1, 1946, with a service record of 54 years with the Pennsylvania Fish Commission.

Mr. Hartman retired as superintendent of the State Fish Hatchery at Erie on July 1, 1946, with a service record of 42 years with the Pennsylvania Fish Commission.

Seeing Things Lately?

Then you'd better skip this amazing story of trained eels like trained seals that go into their repertoire of tricks defying the imagination! George Gordon, ace Fish Commission photographer, captured this seemingly impossible, fantastic, "fish story to end all fish stories" on film. And . . . it's all true!

Employees of the Pennsylvania State Fish Hatchery at Pleasant Mount, in Wayne County, have taught eels to eat food out of a spoon and to take a nursing bottle filled with milk.

And here are pictures to prove it!

It began when the eels—which are creatures that seldom are seen in daytime in any water—showed an interest in food given to other fish in a part of the hatchery known as Hankins Pond.

Hatchery employees, in their spare time, finally taught some of the eels to come to the surface and actually eat from a big spoon. Others were trained to raise their heads above the surface and take in their mouths the rubber nipple of a nursing bottle.

The eels still are a bit shy and won't do their tricks before a crowd of spectators or for strangers, but the hatchery workers who trained them didn't have much trouble getting them to pose for the "out of this world" photographs presented in this month's ANGLER.

When a bottle of milk is held within range, one eel raises its head and part of its body well out of the water and heads for the nipple.

"Contact!" The eel takes the bottle at the side of the boat.

t's time for the show to begin, so a hatchery employee seats himself n the stern of a boat with a pan of food and two nursing bottles illed with milk.

Two hungry eels come to the surface when a spoonful of food is held just over the water. One of them proceeds to satisfy its appetite. The other awaits its turn.

Mr. Eel isn't fooling. It hangs to the nipple with so firm a grip that t can be lifted entirely out of the water.

Smart as they are, these eels have not yet been taught to fly, so in a few seconds the fish loosens its grip on the nipple and plunges back into the pond.

"Are Fishermen LIARS?"

By Bill Wolf

Now here's a question still unanswered on the dockets of quiz experts in ancient Egypt. If there is an answer, we'll go along with Mr. Wolf, one of America's finest outdoor writers, as he goes to bat for the much maligned fisherman!

ALTHOUGH a whale is not a fish, a certain Mr. Jonah did all the fishermen a disservice several thousand years ago when he came back from a mysterious disappearance and reported that he had been swallowed by a whale. Jonah might have been the most honest of men and relating what he believed to be the gospel truth, but I can picture the skeptics of the period greeting him with Bronx cheers and saying: "Man, does that story ever have a *fishy* smell!" The doubters probably told their descendants about Jonah and his "fish story" and thus was born the unfair implication that men cannot tell the truth, the whole truth and nothing but the truth when they mention fish. Eventually, this grew into the universal belief of today—among persons who don't fish—that all fishermen are liars.

Those of us who follow the gentle art of fishing with the angle know that this is not true, that it is a lie in itself. I never doubt any angler's story because I don't want him to doubt me when he stops gabbing and gives me a chance to tell one. This gives rise to mutual trust on the "I'll believe you if you'll believe me" basis, and has led to a beautiful understanding among fishermen who regret that other people, and even nations, can't get along on a similar common ground of faith in each other.

Of course, I have had some trouble swallowing certain stories, just as the whale must have had difficulty in swallowing Jonah. In such a case I have only to repeat over and over to myself "All fishermen are honest men, all fishermen are honest men" and my doubts vanish. I *believe*. Thus I know for a fact that eels will hatch from horsehairs put in a rain barrel, that you won't have any luck the rest of the year if you don't make your first fishing trip on Good Friday, and that there are three-headed trout because fishermen have told me so. Science is very much to be condemned for not accepting such things as facts when they are backed up by the weight of authority of such honest men as anglers.

How fishermen ever got the reputation of tellers of tall tales is beyond me. A man returns empty-handed from a fishing trip. He explains: "Well, the moon wasn't just right, the temperature was two degrees too high, the wind was from the east when fish bite least,

the barometer was falling, and I didn't fish the best hours of the day—but you should have seen the one that got away! That trout went all of twenty-five inches. There I was, fishing with a 6X leader when that tackle-buster struck. I set the hook and felt the weight of him for several minutes, but the leader snapped and he got off. Just as good, though, because he would have smashed my little light fly rod for sure and——" At this point, the man's family rushes to the doors and shouts to all the neighbors: "Come on in and listen! Pop's telling another one of his fish stories, and it's a whopperoo this time!"

Why do they doubt him? There is a truthful man, telling the truth. His family and friends doubt him just because he said a fish got away, but that is proof that he is not prevaricating. He is admitting failure, which only a very honest man would do. A liar would say he caught the big fish and gave it to the Home for the Aged because it was too large for the family oven. This man, however, modestly admits that he failed to catch it, and gets a razzing for lying.

Naturally, big fish get away. That's why they are big fish, because they have escaped dangers. I always believe anglers when they tell me they lost one "that would have broken the world's record if I could have landed him." Furthermore, when a fisherman estimates the size of a fish seen in the water I never doubt his measurement. Fish always look smaller in the water than out, and when a person says he saw one a certain size, I invariably add six inches to make up for the size-reducing optical illusion.

Anglers do delight in telling each other and anyone else who will listen how they caught a nice fish, and perhaps this has given rise to the fiction that they are liars. But is a golfer a liar when he tells how he broke par? You don't hear "golf stories" used in the same sense as "fish stories," meaning lies, and no one says a thing smells "golfy" but they will say it smells fishy. Neither do things smell baseball, tennisy, bowly or darty. It's always fishy. Even the French term for April Fool is *poisson d'avril*, or Fish of April, adding a further burden of opprobrium to that noble animal, the fish, and, indirectly, to fishermen.

There are even some outdoor magazines that encourage tall tales, thus implying that only fishermen and hunters are capable of stretching the truth to Paul Bunyanesque proportions. And cartoons in all magazines show the angler as a prevaricator, or at least as a man who skirts the edges of truth. Anglers look at such cartoons and smile with the sweet resignation that marks them as men long accustomed to scurrilous attacks. They know that they are honest men, and the gadfly of popular opinion can't sting them at all. They wear the shining white armor of Truth against such barbs.

The only trouble lies in convincing other persons that we are among nature's noblemen, strong characters who wouldn't countenance even a very small fib in telling about our fishing experiences. I think, perhaps, so many wondrous things actually do occur when fishing that we are accustomed to accepting the near-miraclous as commonplace. Other, lesser people, having no such experiences, put them down as fishermen's tales, and hold their noses delicately while pretending to listen to them.

For instance, I wouldn't be surprised to catch a two-headed fish, but I wouldn't even take it home to show anybody because they wouldn't believe it. The fish and game commission of one of the southern States—Virginia, I believe—had a two-headed bass which it kept alive for some time. They also had a turtle through the body of which a blade of grass had grown. The young turtle was found attached to the blade of underwater grass. Now, don't ask me to explain this—you must take it as the truth, given on the word and honor of a fellow fisherman. But you can see how the scoffing public would react if you came home with a story of such things.

Men have cast lures and caught strange things. I know of one case where a man cast into the growing dark over a lake, and his plug didn't come down. The line paying out seemed to hesitate, then it kept on going out, now slow, now fast, until the end of it was reached. Whereupon, he reeled in, completely mystified until he found the plug had landed on the back of a large bat in flight. Another friend caught a duck in like manner, and a third landed a pelican. I have had difficulty at times in keeping small insect-catching birds from seizing a dry fly while I made false casts, and I hope I never catch one because only fishermen would believe me.

Fish stories, all of them. I was angling one spring for winter flounders near Brielle, N. J., and was using a wire spreader. This, of course, is a metal gadget which keeps two hooks close to the bottom, and the line is attached to a swivel in the center. I got a hit, started to reel in, and lost the whole rig, perhaps because of a faulty knot at the swivel. We were anchored at the time, and I put on another spreader and soon got a strike. On pulling in, I found I had a winter flounder on the replacement spreader, *and* a winter flounder on the lost spreader which was securely hooked through the eye of the swivel! In some mysterious manner, the hook of the second spreader had found the eye of the swivel on the lost one and hauled it up with a fish on it. I only tell that story to honest men like anglers.

Such coincidences are a dime a dozen in fishing circles, and I believe all of them, else who would believe me? If someone tells me they lost a watch overboard, and caught a fish in the same spot the next year with the watch in its stomach, I'll believe it. I've learned not to be surprised by anything the truthful fraternity of fishermen tells. When you have seen, with your very own eyes, a bass caught on a cork float which it hit instead of the bait you'll believe anything. And there was the time a friend of mine kicked a 16-inch sucker from the water to the bank when it swam near him while he was fly fishing for trout. He toyed with the truth for a few minutes, trying to tell me that he caught it on a Royal Coachman, but honesty triumphed and he confessed.

If you say you caught two fish on one plug, no one outside of fishing circles believes it. If you say

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BEHOLD, THE FISHERMAN*

By N. R. Casillo

ARE YOU AN AVERAGE ANGLER?

What is your favorite game fish?
Do you own at least $75.00 worth of fishing tackle?
Is a fishing trip a bust if you catch no fish?
Do you like a pal along or prefer to fish alone?
Do you bring fish home more to prove to the family and neighbors your angling prowess than any other reason?
Do you hang around tackle stores for hours but kick like a steer if the good wife wants you to go along shopping?
Do you plan vacations for the family with an eagle eye on fishing accommodations?
Do you think carrying a fish bag, creel or stringer is bad luck?
Are you a barometer watcher?

Make a mental note of your answers, then read this article to determine how you stack up as an average angler!

SPORT fishing is a great leveler. Presidents may fish in private heavily stocked streams, the business tycoon from his yacht, others with the wherewithal resort to remote lakes and rivers in the hinterlands. However, it is doubtful if those who can afford such extravagances have any more fun than the penniless fellow fishing from the banks of a mill pond or neighboring stream for the guttering sucker or bewhiskered bullhead.

Fishing does not impose restrictions of age, social position, skill or finances. Fish make no distinctions between rod or pole, a hank of chalkline or a Hardy Corona Superba; whether the chap is wearing expensive waders or just an old pair of shoes.

Accordingly, angling may be reduced not only to the common denominator of sport, but the anglers themselves fall into a more or less common pattern. Fishermen are more than brothers under the skin. As one frustrated misanthropist puts it, "They are a misguided lot of deluded optimists who think themselves smarter than their quarry. Whenever a fish outsmarts a fisherman the fish is at once elevated three or more notches above its rightful position

* From a survey 1272 fishermen visiting the Pymatuning Area.

in the scale of evolutionary development. Indeed, often it achieves a footing equal to that of the alleged fisherman."

The foregoing quote notwithstanding, if you are a fisherman the chances are 99 to one that you go fishing to catch fish. This business of going out to commune with nature or loosening up the old casting arm is okay, but the primary objective is to connect up with members of the finny tribe. After all, they are responsible for your being a fisherman. Certainly, there are those who like to cast competitively just as there are gunners who shoot at the traps, but back of it all is the idea of improving your chances of connecting with your quarry be it scaled, feathered or furred.

Sure, it's fun to fish regardless of equipment, but it is the consensus of nearly 96 percent of those interviewed that it is more fun to fish with a fairly complete outfit. Despite the legend of the barefoot boy he too declared that he prefers a good rod and reel and a fair assortment of artificials.

Much of the fun of fishing is in caring for your outfit and augmenting it from time to time. A well-heeled angler knows and regards no limits when turned loose in a well stocked sport store.

In this respect the fisherman is paradoxical. In his business dealings he may be uncommonly acute. He buys materials only on a basis of proved performance, leveling a fishy eye at extravagant claims. In other words he is an astute buyer. Yet, when it concerns fishing tackle he will buy practically anything on the slightest excuse. His judgment deserts him. He has faith that everything, no matter how cockeyed, manufactured for catching fish, is for him and he buys in wild abandon.

Individual ownership of equipment ranged from approximately $3,000 owned by an elderly zealot who among others has a dozen high-grade saltwater outfits to the chap who admitted to a rusty telescopic steel rod, 75-cent reel and Cuttyhunk line. Incidentally, many anglers fishing for the first time and who borrow equipment for the occasion, subsequently purchase outfits of their own; frequently going all out for the best that the market affords.

When the elderly chap was asked why he had so much tackle he answered that he likes to look at and handle it as well as fish with it. He does most of his ocean fishing off the coast of Mexico. The red trout of the Laurentian highlands is his favorite freshwater quarry. Yet, he probably has no more fun than the chap who admitted to the ancient telescopic rod. He fishes at least once a week. Lures? "Live bait," he retorted, "Worms, crabs and minnows."

It was definitely determined that the average fisherman owns $75.00 worth of equipment. Remember that this includes such items as motors, boots, boats, boat trailers and other adjuncts designed to enhance the sport.

It may be a matter of self-praise, but every one to a man declared that fishermen are a pretty good lot, i.e., they are as a rule when consorting with other members of the piscatorial fraternity.

Coincidently, in the many years that I have followed sport fishing on only one occasion was our party stuck with an individual who proved to be a heel. Fortunately, it turned out that he was not a true disciple of Father Walton, but an opportunist who had been temporarily fascinated by the fishing yarns he had both heard and read. Accordingly, he outfitted himself with the most expensive and elaborate accoutrements he could manage to purchase or borrow, selected the most likely territory for his exploits and then set out with two "high-powered" guides who proved to be tolerant of this character's brand of un-sportsmanship, and three luckless companions, on a trail of piscatory carnage. Both petty and not-so-petty squabbles to keep down his killings were fairly frequent. The final blow fell when he killed two noble bass by slamming them against the sides of his craft while still on his shortened forty-pound test line.

Since a fisherman is likely to gather about him those who have similar likes and dislikes, the chances are very good that when the group is on a fishing foray its members will click congenially. Although anglers may not be in accord with the methods and baits employed by their companions, they are nevertheless tolerant so long as the rules of good sportsmanship are observed. The old notion that the fly devotee looks askance at the live bait fisherman is rapidly being relegated to the heap of other outmoded ideas.

The oldest fisherman interviewed was an 89 year old West Virginian who was accompanied by his thirty-year-old grandson and a great-grandson of seven. They had been fishing one of the remaining segments of the southern extension of the Erie canal adjacent to Hartstown, and had a nice mess of bullheads to show for their joint efforts.

Admittedly, the old gentleman had reached an age which only a few attain, yet he did not impress me as being old. You will agree that some individuals still in their twenties look at you with the wearied eyes of age while many oldsters still display the gleam of youth in eyes which have functioned for more than three-score and ten.

Although the foregoing examples represent both extremes of age the average age is thirty-two. Even a cursory survey along the banks of any popular fishing spot will confirm the observation.

Fishing devotees do not look on the sport as one peculiarly adapted only to the periods of boyhood and old age. Instead, confirmed anglers "graduate" from one type of fish to another and the same goes for the methods employed. However, nearly 13 percent of all anglers polled reported that they fished only one way. Only two reported they fished for but a single species (carp).

Bass head the list with a high of 93 percent as the game fish most sought. Others in the order of their popularity are panfish, trout, walleyes, muskellunge, lake trout and northern pike. It is interesting to note that during a period of astounding muskellunge catches in a number of western Pennsylvania lakes and rivers this largest member of the pike family gained a cool five points.

Since the average age of the fishermen polled is 32 they are family men with the seemingly

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NATURALLY, the next morning I went over to Taylor's Trading Post. That was the last place Bill Everdy, my missing guide, had been seen. It had been an elaborate establishment that had failed to flourish. Taylor wasn't a bad sort when he was sober, but as business dropped off, he went in more and more for drink. That morning he was sober and seemed glad to see me. I steered the conversation to young Everdy's disappearance.

". . . Seems your clerk, Fred, was the last one to see Bill?"

"No, I saw him later; in fact, I introduced him to a fellow who might be able to explain his whereabouts . . . Wellington X. Waring."

"What a handle," I laughed. "Can it be his real name?"

Taylor was serious. "As a matter of fact, it isn't. This fella came in here thirty some years ago calling himself plain Johnny Smith. It was during World War I. He blew in with his Army exemption papers, a government loan, and a plan to drain 1000 acres of the swamp for growing some kind of medicinal plants the Army needed. He had a half dozen dredgers puffing away and throwing up dredge banks all over the place. He built himself a swell camp in the very heart of the swamp. Then a bad storm drove the lake back into the swamp. It was like a tidal wave. Everything was messed up. Smith disappeared. I thought him dead, and his huge project went back to the muskrats."

"How did you recognize him. A man changes a lot in thirty years."

"I wouldn't have known him if his son hadn't been with him. His son is a replica of his old man during World War One."

Taylor went over to the piano, picked up a photograph, and brought it to my table. "Here is Wellington X. Waring, alias Johnny Smith. He was sweet on a waitress and gave her his picture. Then he disappeared . . . and she did too. The picture has been standing around ever since. I don't know why it wasn't thrown out long ago."

I whistled when I saw the picture.

"In Neward we know that fellow as Wellington L. Remington. He, his father, and uncle disappeared last week from Neward with about a quarter million dollars handed over to them as down payment for low cost homes. So you think they're in the swamp out there?"

"They asked me if I knew a good swamp guide and, as luck would have it, Bill Everdy came along just then, and I introduced them. That's all I know. I didn't hear their conversation. When I got out on the veranda again, they had left in their high powered boat."

I telephoned the Neward Chief of Police and told him the story. He said I'd hear from him, but I didn't expect him to act so promptly.

That evening when I brought Bill's outboard back to the landing, two men were waiting.

"Mr. Wright?" asked the first.

"Yes," I answered.

"I'm Pete Blankenship. This is Arthur Baker, Lieutenant Baker. We're from the Neward Police Force. We're here on your tip. Will you take us at once to the hideout in the swamp?"

If you know the Mandho Swamp with its thousands of acres of utter pathlessness, you have some idea how I felt. If some one told you to take him to a certain sand dune in the Sahara, you couldn't have felt more helpless.

"Why, sir . . ." I started to tell him that I knew nothing of the swamp except its eastern margin, and then something happened to me that is beyond explanation! Never in my life have I had such an uncanny experience. For I thought one thing and heard myself saying quite the opposite. It was as though I were possessed by something . . . controlled by something that governed my voice and my actions. My brain was my own but my physical self paid no attention to my brain. I heard myself saying, "Why, sir, I'll take you there as rapidly as this outboard will take us."

"Let's see," he said, "It's exactly 7:00 P. M. How long will it take us?"

"We'll be there," I heard myself saying, "by 9:45. There will be a full moon tonight. It will be well up by 8:45. By the time we reach the thousand island area, there will

Swamp Interlude

By Carsten Ahrens

Illustrated by Dawn Quail

PART 2

Conclusion of a tale of the great Mandho Swamp, its mysteries and secrets still unsolved. Legend may still persist but who can say for certain there are no ghosts in this dank, unearthly place?

be plenty of light to find our way through the dredge cuts."

While I spoke, the two men got into the boat. I . . . or something . . . sent the craft in a neat arc and we headed for the swamp.

We said little. I was so confused at my predicament. I knew I was doing something insanely foolhardy, yet I was helpless to do anything else. The little motor seemed to sing . . . the boat leaped along . . . and soon I found there was a strength operating the tiller that was stronger than I. I sat in the stern of the boat and to all appearances I was governing its movements, but I soon discovered that the boat was being steered by something else. At the time, that realization gave me neither comfort nor discomfort. I was just filled with an increasing amazement as the boat threaded its way through that intricate labyrinth of wild rice fields and water ways that is known as the Mandho Swamp. As we sped along, the moon rose and the swamp became a magic thing of silver and black; it became increasingly noisy as millions of nocturnal insects began a rhythmical chant which was augmented by frogs, tree toads, and certain raucous-voiced water birds.

Meanwhile we were working our way deeper and deeper into the swamp. Once I remember we passed through a series of circular ponds completely without vegetation; they seemed like round jewels on a string. Once we passed among *islands* of giant trees, each with seven or eight masses in the branches, and I heard myself explaining to the two men that this was an ancient heronry, a nesting area since the beginning of time of the great blue heron.

Shortly after that, the boat shot into a long wide dredge cut. Prodigious cat tails grew thickly on either side, leaving a wide path down through the center where the water must have been very deep. Suddenly, in spite of my efforts, the boat turned from the clearing and hid itself in the dense vegetation near the bank. The two officers demanded an explanation.

"Listen," I said, "and, Blankenship, stand up but just for a second."

He did; his head was just above

the cat tails. I could hear a roaring that steadily grew louder.

"It's a speed boat . . . a whopper," shouted the officer.

"Squat," I said.

The great boat with its prow high in the air streaked by. Our little boat bobbed about like a cork. I started the motor. The craft swung around and started after the speed boat.

"Don't follow it," cried Blankenship; "you'll never overtake that speed demon."

Now I was in a dilemma. This something that controlled our boat seemed determined to follow the speedboat!

"We must be close to their hideout," Blankenship insisted. "Turn about and we'll find it."

I managed to slow down and then, finally, got turned around. The officers were both somewhat annoyed with me, I know. Soon, however, we were flying along again down the silver streak between the cat tails. The dredge cut made four right angle turns and then led into the very center of the camp. There were several acres considerably above the level of the swamp, and the entire island was completely fenced with closely spaced willow trees. Three hundred feet from the landing I shut off the motor and paddled noiselessly to the hard clay shore.

"You stay here, Wright, while we look around a bit." Blankenship shoved a chunk of cold steel into my hand. "Know how to use it?"

"Sure," I whispered confidently while my brain complained that I'd never handled such a weapon.

A light glowed dully in the cabin close to the landing. The seven or more other buildings were dark. Through the screen door we could see a woman who appeared to be knitting.

Blankenship walked up the porch steps.

"John?" the woman called. "Or is it you, Johnny?" Silence. "Fred, is it you?" The woman came to the doorway and saw Blankenship. "Oh," she said, "The police . . . You're too late."

"I'm from Neward; a good many folks there are interested in getting back the money they poured into 'Hollywood Acres.' May I come in?"

"Yes," she said. "I am not armed. There are two guns, however, both loaded in that drawer."

Blankenship secured them.

"Your husband, son, and brother-in-law have gone?"

"Yes . . . for good." Her lips twisted in a cynical smile. "I mean . . . for ever. I was left behind at my request."

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FISHING REGULATIONS FOR 1952

SPECIAL NOTICE: By special amendment of the Fish Laws passed by the 1949 Legislature—All fishing is prohibited in any waters from March 14 to April 15, 1952 except in rivers, lakes or ponds not stocked with trout.

SUMMARY NO. 1—Inland Waters Only

Species	*Season*	*Size*	*Creel Limit*
Brook, Brown & Rainbow Trout	April 15 to July 31. Season opens 5 A.M. April 15	Not less than 6 inches	10 (combined species)
Trout (lake or salmon)	July 1 to Sept. 29	No size	8
Bass, Small & Large Mouth Bass	July 1 to Nov. 30	Not less than 9 inches	6 (combined species)
Pike Perch (Walleyes)	July 1 to Nov. 30	Not less than 12 inches	6
Pickerel	July 1 to Nov. 30	Not less than 15 inches	6
Muskellunge	July 1 to Nov. 30	Not less than 24 inches	2
Northern Pike	July 1 to Nov. 30	Not less than 16 inches	4
Bass (white, crappie, strawberry, or calico)	Any time of year	No size	15 (combined species)
Rock Bass, otherwise known as red-eye, or goggle-eye	Any time of year	No size	15
Yellow Perch	Any time of year	No size	15
Sunfish, Bluegills	Any time of year	No size	15 (combined species)
Catfish	Any time of year	No size	15
Suckers	Any time of year	No size	15
Chubs*	Any time of year	6 inches (see note below)	15
Fallfish	Any time of year	No size	15
Carp	Any time of year	No size	15
Eels	Any time of year	No size	Unlimited
Frogs	July 2 to Oct. 31 (Sunday excepted)	No size	15—Not more than 50 in any one season
Tadpoles	July 2 to Oct. 31 (Sunday excepted)	No size	15
Terrapin (Red Leg)	Nov. 2 to Mar. 14 (Sunday excepted)	No size	5—Not more than 50 in any one season. All other Turtles unprotected.
Bait-fish or fish-bait	Any time of year	No size	Bait-fish—35 Fish-bait—35 Combined—50

* NOTE: Under amendment to fish laws passed at 1951 Session of the Legislature, Chubs measuring less than 6 inches in length are now classified as bait fish.

Note: In above mentioned seasons, both dates are inclusive.

SUMMARY NO. 2—Delaware River, Above and Below Trenton Falls

Species	*Season*	*Size*	*Creel Limit*
Trout (all species)	April 15 to July 31	Not less than 6 inches	20 (combined species)
Bass (large & small mouth)	June 15 to Dec. 1	Not less than 9 inches	10 (combined species)
Bass (strawberry, calico, rock or red-eye or goggle-eye, white, crappie)	June 15 to Dec. 1	Not less than 6 inches	Rock Bass—20 Calico and crapple (combined species) —20
Pike Perch	June 15 to Dec. 1	Not less than 12 inches	10—(Walleyes)
Pike	June 15 to Dec. 1	Not less than 12 inches	10
Pickerel	June 15 to Dec. 1	Not less than 12 inches	10

SUMMARY NO. 3—Delaware River between Pennsylvania and New York

Species	*Season*	*Size*	*Creel Limit*
Bass (large and small mouth)	July 1 to Nov. 30	Not less than 10 inches	6 (combined species)
Rock Bass	July 1 to Nov. 30	Not less than 6 inches	Unlimited
Trout (all species)	April 15 to Aug. 31	Not less than 7 inches	10 (combined species
Pike Perch (Walleyes)	May 10 to Mar. 1, next ensuing	Not less than 12 inches	15
Pickerel	May 1 in any year to Mar. 1 of ensuing year	Not less than 12 inches	15

SUMMARY NO. 4—Lake Erie

Species	*Season*	*Size*	*Creel Limit*
Bass (large & small mouth)	June 15 to Nov. 30	9 inches	6 (combined species)
Rock Bass	Any time of year	No size	15
Bass (crappie, strawberry, or calico)	Any time of year	No size	25 (combined species)
Pike (Great Northern)	June 15 to Nov. 30	12 inches	8 (combined species)
Muskellunge	June 15 to Nov. 30	Not less than 24 inches	2
Sunfish-Bluegills (Bream)	Any time of year	No size	15 (combined species)
Smelt*	March 15 to May 31	No size	Unlimited

* (All streams emptying into Lake Erie within confines of Penna. from mouth in a southerly direction to State Hwy. Rt. No. 5).

SUMMARY NO. 5—Pymatuning Lake

Location: Between States of Pennsylvania and Ohio—Crawford County

Species	*Season*	*Size*	*Creel Limit*
Muskellunge	July 1 to Nov. 30	Not less than 30 inches	2
Pickerel	July 1 to Nov. 30	Not less than 13 inches	6
Black Bass	July 1 to Nov. 30	Not less than 10 inches	6
Pike Perch	July 1 to Nov. 30	Not less than 13 inches	6
Sauger	No season	Not less than 11 inches	6
Bluegill or Sunfish	No season	No size	15 (combined species)
Rock Bass	No season	No size	15
Yellow Perch	No season	No size	15
White Bass	No season	No size	15
Crapple	No season	No size	15
Catfish	No season	No size	15
Suckers	No season	No size	15
Carp	No season	No size	15
Minnows (2 rods and lines or 2 lines only)	No season	No size	35
Frogs (unlawful to take frogs by use of light)	July 2 to Oct. 31 (Sunday excepted)	No size	25 in one day 50 in one season
Tadpoles	July 2 to Oct. 31 (Sunday excepted)	No size	25 in one day or in possession at one time

Excerpts From the Minutes of the Meeting of the Pennsylvania Fish Commission Held July 7, 1951

At the last meeting of the Commission, Bernard S. Horne, President, appointed the following members to look after the projects in their districts covering the acquisition of streams and waters, surveys, scientific work on lakes and streams, etc.:

Northeastern District
Mr. Bitenbender

Southeastern District ..Mr. Burk

Central District ..... Mr. Winner

Western District ..... Mr. Angle

Publicity (for Commission and Central Office)
General Stackpole

Past President Peek to be ex-officio member of all committees.

Benner Spring Project

The Commission went over the plans and specifications for the Benner Spring Project and approval was given for the work which will no doubt be started within the next few months.

Rules and Regulations, Size, Season, Creel Limits, Etc., Governing Fishing for 1952—Inland Waters, Lake Erie, Delaware River, and Pymatuning Lake

In accordance with authority given the Commission under the Act of May 2, 1925, as amended, the rules and regulations, size, season, creel limits were set up for the 1952 fishing season.

The same rules and regulations will prevail on the inland waters, Delaware River, Lake Erie, and Pymatuning Lake subject to any amendments which were passed at the present session of Legislature.

Amendments which have been acted upon and passed up to the present time are:

1. The legal size of pickerel has been changed from twelve to fifteen inches. (Effective Sept. 1st).

2. Setting up a penalty under Section 20 which provides there shall be no fishing between the 14th day of March and five o'clock antemeridan on the 15th day of April. This is an amendment which

was greatly needed and now provides for a $5.00 penalty for the first offense and for a second or subsequent offense, a fine of $20.00.

3. The possession limit stays the same. The penalty also stays the same. (See Summary.)

Canadian Subject or Citizen

Under amendment to the license law, Canadian Subjects or citizens can secure a non-resident license by the payment of the fee charged and received from non-residents by the various Canadian Provinces and Territories for a similar license, not however less in any case than two dollars and fifty cents ($2.50). Applications can be secured from the Department of Revenue, Harrisburg, Pennsylvania.

Nursery Waters

The present fishing regulations on Memorial Lake, Indiantown Gap Military Reservation were continued for a period of five years.

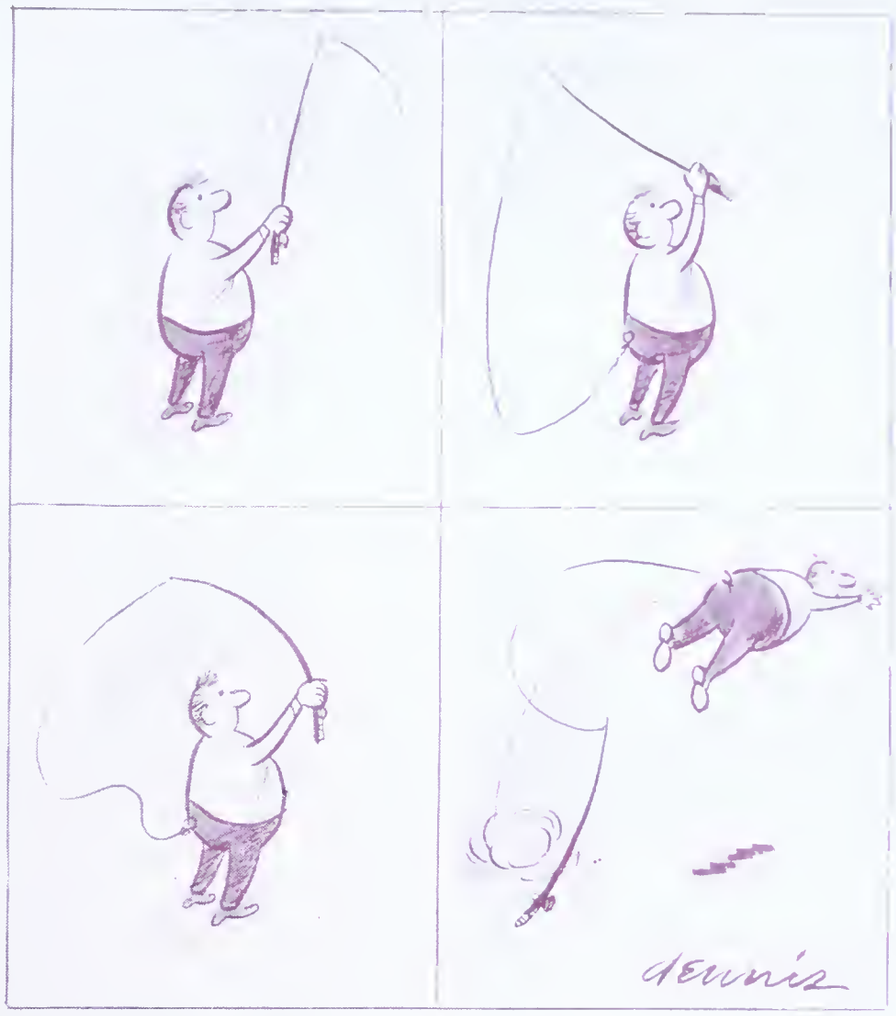
Authorization was given the Millcreek Rod and Gun Association to set up a cooperative nursery on their ponds located on their property.

Biological Survey—Brandywine Creek

Arrangements were made so that a study of the Brandywine would be made in both the Spring and Fall.

Zoning—Conneaut Lake

Owing to the complaint governing the operation of motor boats on Conneaut Lake, Crawford County, Honorable Philip E. Angle, member of the Commission, was authorized to make a complete investigation with authority to proceed with any regulations which he thought necessary.



CONSERVE OUR MINNOWS

(*From Page* 13)

definite service and at the same time preserve a desirable condition for fishing for those who come after them if they will take no more minnows than they actually need and then make the best possible use of those they take from the streams.

Too often, anglers destroy redfins needlessly. Frequently when they are netting minnows they kill too many because they are careless.

I have seen so-called sportsmen, engaged in netting minnows, callously destroy a percentage of those which did not meet their requirements as to size. Instead of carefully returning small minnows to the water from which they came they often turn their nets inside out with a flourish and if the minnows still in it are thrown on the rocky shore instead of back into the water they pay no attention and leave the little fish to die on the shore.

Thousands of minnows probably are killed each year through the thoughtlessness of the anglers who have netted them in anticipation of fishing expeditions a few days afterward.

In a number of instances these thoughtless fellows, upon arriving home with their "breather" buckets, have concluded the minnows should have fresh water and have dumped out the creek water in which they placed the redfins when they netted them and refilled the bucket with water from the house spigot.

Either ignorant of the fact that domestic water supplies frequently are treated at the source with chlorine for purification purposes, or perhaps not realizing that this treatment makes such water poisonous to fish life, they find all of their minnows lifeless when they are ready to use them as bait.

It isn't only the individual angler who frequently makes this mistake, for I know of a sporting goods dealer, through special State permission, who handles bait fish which he purchases from bait procurers in a neighboring state who lost thousands of minnows when he opened his basement store spigot above the barrel in which he was keeping his stock-in-trade.

It was his intention to give the minnows a constantly changing supply of water but to his consternation, when he went to inspect his minnows several hours later, every tiny fish was belly-up

in the barrel and his considerable investment was a total loss.

Thereafter, he told me, he changed his water supply for his minnows by visiting a stream of pure mountain water a mile or so distant from his store and dipped a tank of untreated mountain water into a tank on a truck to provide a fresh water supply for his minnows.

Minnows, if given proper care, can be kept for several days and be as lively and vigorous when the time comes to use them as they were when they were dipped from their native streams.

I have a "breather" bucket, which I am careful to have equipped with a good papermache inner bucket, in which I have kept redfins for days. I place the bucket on the floor of the "cold cellar" in my home where the temperature is several degrees lower than it is elsewhere in the house and where there is a bit of dampness in the atmosphere.

There have been times when I have kept the minnows longer than I ordinarily do and at such times I have renewed the water in the "breather" bucket from a pure stream which flows out of the mountain about a half mile south of my home.

Seldom do I lose a minnow when I follow this method of keeping my bait fish, and I have never ceased to marvel that redfins which for days have had no visible food supply have remained vigorous and healthy, for I have never placed anything for them to eat in the "breather" bucket.

Those who have live bait boxes which they keep submerged in a stream and which provides them with bait fish when they take a sudden notion to go fishing will do well to make certain their boxes remain submerged during those periods of the year when streams fall considerably below their usual level because of infrequent rainfall.

There have been cases where anglers failed to check their live bait boxes during a siege of drought and when they did check on their bait fish found their bait boxes high and dry and their contents destroyed.

Another wasteful practice so far as bait fish are concerned is found too frequently. That consists of not making the best possible use of a legal supply of bait fish.

SIXTY-FOUR POUNDS! (Oh well, you should know better than to weigh the new baby on Daddy's fishing scales).

I have known anglers who change to a fresh minnow after only a few casts because their redfin isn't performing in the water as vigorously as they think it should, whereas if they had increased the lure of the minnow by skillful manipulation of their rod and line so as to make the minnow attractive to the fish they were seeking to catch they would catch as many fish and with far fewer minnows.

Indeed, I have caught nice fish, both trout and bass, on dead minnows by attaching them to the hook in the proper manner and manipulating them so they really come alive.

It's amazing the things anglers do to their minnow supply. We've seen them jam a bucket of minnows into the trunk of a car, close the lid and drive for fifty miles, then wonder why, upon arrival, all the bait were dead. Many anglers take bait from a spring-fed stream, fill their bucket with the cold water and upon arriving at a warm-water stream, take their floating pail and immediately douse it into the warm waters of the river, then wonder why the bait is "belly-up!"

Minnows require careful handling. To most anglers a bucket of dead bait is useless and out they go. It's a needless waste which can be eliminated with planning and care. We'd better start conserving what we have. The minnow supply in our streams is not inexhaustible!

SWAMP INTERLUDE

(*From page* 23)

"Why did you decide to part company?"

"They added a final crime to their list that I couldn't stomach."

"And that was . . .?"

"Murder—pointless murder."

"Where is the corpse?"

"In the farthest cabin . . . over there."

"Baker, check that."

"Right."

"Mrs. Smith," said Blankenship, "do you realize where you are marooned?"

"Better than you, probably. I was here during the first World War, or part of it. It's a hell hole in the summer and the north pole in the winter. My life since my marriage has been such that even this island is going to seem a haven of . . ."

Her remarks were cut short by the distant roar of the rapidly returning speed boat. Blankenship blew out the kerosene lamp and closed the cabin door.

"Wright," he called to me, "Get your boat out of the slip; hide it." Baker jumped to my assistance and we pulled the boat well into the willows. The powerful boat, like a restless beast, growled up to the landing.

"Gretchen" . . . a heavy voice.

"Mother" . . . a more youthful voice.

"You'd better go with me, dad."

A third voice spoke, "We'd better all go. In her present state of mind, she's too dangerous to be left alone. We may have to carry her aboard."

A young man jumped down followed, more slowly, by two elderly men, both decidedly overweight. As they started for the darkened cabin, Blankenship and Barker both stepped into the moonlight.

"You're under arrest," Blankenship said.

For the sliver of a second there was complete silence. Then the younger man and one of the older men threw themselves toward the officers. Both revolvers spoke together, and two of the lawbreakers fell. Johnny Smith Sr., stood alone.

"What is the meaning of this outrage?"

Mrs. Smith had come out on the porch. "Cut out the dramatics, Johnny. They know everything."

"Everything," cut in Barker. "Even that you gunned your helpless red-haired guide . . ."

Odd how that *something* . . . you'll probably call it sheer bravado . . . abandoned me as soon as I learned Bill Everdy was dead. The gun dropped from my hand. I couldn't have found my way down the first series of dredge cuts let alone the rest of the swamp that blunders its way, here and there, until it finally reaches the lake. They had to take me back to the east end of the swamp. But you asked me if I believed in ghosts. Of course, not . . . no fisherman does. But the eerie, mysterious swamp jealously guards many secrets from an angler. It's the things he doesn't understand and never will understand about the swamp that sends ice-water coursing through his veins.

BEHOLD THE FISHERMAN

(*From page* 21)

physiological incongruity of 2½ children. All of the fathers are intensely interested in seeing that their children take up the sport. One fellow with three daughters vacationing on Canadohta Lake declared that the girls kept the family in fish during the sojourn.

Singularly, the anglers were almost evenly divided when asked which they would rather do, spend their fishing vacations with their families or with fishing cronies. Fifty-one percent declared that it does the men good to occasionally get out by themselves. Those with grandchildren prefer their company to that of the boys. It seems that by the time a man becomes a grandfather he is content to revert to the fish requiring less effort to catch. One oldster accompanied by a couple of grandchildren on a fishing sojourn at Conneaut Lake snagged a lunge so large as to require the aid of some nearby anglers to boat.

Occupations and professions include practically everything. As a rule professional men in the higher income brackets do not have the close contacts with their children that those in the lower income groups enjoy although a judge of common pleas court prefers his family to any other companionship.

One of the most enthusiastic sport anglers interviewed was a Lake Erie commercial fisherman. The mailman on a walking tour has nothing on him. Most of his waking hours are spent in catching fish. Then, one of the boys employed at the Linesville Hatchery spends his off-hours fishing. An older brother averred that after he finishes work he goes home only to grab his tackle and dash off for some favorite fishing spot.

Incomes ranged all the way from close to $25,000 down to less than one-twelfth of that amount. The average simmered down to $3,600. "With two and a half children and a wife a fellow couldn't do too much fishing unless he made at least that," asserted one chap. He treated his own three children to a yearly fishing outing of two weeks. His annual income is $4,000.

Money spent for fishing vacations varies enormously. Three fellows spending a total of three days on Canadian waters paid out only twenty dollars apiece. This included auto transportation of 1070 miles as well as the rental of an outboard motor and boat. In contrast to the foregoing it cost three others a total of nine hundred bucks for a ten-day holiday only 425 miles from home. This included a fancy camp and "bait" enough to entice most of the fishermen in the vicinity. They admitted that most of their time was spent in entertainment and recovering from the same. A subsequent check showed that in odd moments they made record catches of lunge in the oldest lunge producing region in North America. That's luck for you.

The most interesting thing disclosed by the poll was the apparent limitless gamut of personalities embraced by the fishing fraternity. Yet, almost without exception, when discussing their favorite pastime they exhibit a boyish enthusiasm that is positively contagious.

Best of all, every fisherman has precious memories. All of us can recall when and where we caught our first fish. Again, will any of you forget when you caught your largest? A friend of mine who has fished for more than forty years recently caught the largest smallmouth bass in his long fishing career. His enthusiasm and triumph knew no bounds as he

made the rounds of his fishing friends to show off his catch. Time does not dim fishing thrills.

Whether or not you conform to any statistical classification means but little. The all-important thing is that you are a fisherman. Whether designated as a percentile or a personality, we're all brothers under the ancient and honorable sign of the angle.

STREAM PATROL

(*From Page* 12)

All this data is put into reports which are sent to the Fisheries Research Laboratory at Bellefonte for scientific study. In the case of the bass scales, by way of explanation, the laboratory men have learned to estimate with great accuracy the age of a bass by microscopic examination of its scales—and when the age of a fish is compared to its weight and length, and then compared again with known standards, many facts can be learned about food and other conditions in streams.

Incidentally, Warden Bidelspacher makes two interesting observations as a result of his fact-finding.

One is that more and more anglers are fishing for sport, not meat, and that many, many hooked fish are returned unharmed to the water from which they were caught.

Another is that every year a larger proportion of fishermen are using artificial lures.

The Warden told me this story:

"One day while I was on patrol an excited individual told me he had been watching a man fish in a nearby stream. The angler, he said, was standing waist deep in the water and catching a lot of fish. My informant added that each time the man hooked a fish he reached down into the water and slipped it into his trouser pockets without even bothering to measure it.

"I decided to check up. When I got to the spot the fisherman was just climbing the embankment along the creek to the road. His clothes clung wetly to his body, and it was obvious that he had nothing at all in his pockets, let alone any fish. What is more, he wasn't even carrying a creel.

"'How's the fishing?' I asked him.

"'Swell,' he replied.

"'But I don't see any fish,' I could not help saying.

"'I never keep 'em,' the man replied. 'I just hook 'em and reel 'em in, and I've found that they're not hurt a bit if I unhook them, hold them under the water, open my hand, and then wait until they get strength enough to swim away.'

"I felt good all over after that chat," the Warden said.

There's a job of education, too, that the Wardens do.

There was a lad who was fishing a big pool, and who hooked a fish, slipped it into an onion bag tied to his waist, and then resumed his angling. The Warden walked down near him.

"How's the fishing?" he asked. (That's an old one, but it's a mighty effective way to open a conversation with an angler, whether you are a warden or not.)

"Just caught one," was the reply. "It was a bass."

"Big enough?" the Warden asked.

"I guess so," said the boy, reaching into the bag while a big frown appeared on his face. "I—I—I hope so."

He held up a lunker rock bass.

"That fish is OK," the Warden told him. "But if——"

The boy interrupted.

"Say, why does a bass have to be nine inches long before you can keep it?"

"It's like this, son," the Warden explained. "If you let a bass grow to be at least nine inches before it is caught, chances are it will help produce some baby bass. But if you catch a bass before it spawns, it never has a chance to produce new bass. And if you did that long enough, all the bass in a stream would gradually disappear."

The lad smiled.

"I never thought of it that way," he said. "That's a darned good law."

The afternoon was well along by the time we turned away from this lad—and I had come to realize that a Fish Warden does a lot more than just check licenses and fish.

But we had not finished yet.

Earlier in the day H. K. (Hank) Anders, the Lycoming County farm agent, had invited Warden Bidelspacher to attend a farm pond demonstration that evening at the home of Lee Miller, near Pennsdale. There were experts there to talk about farm ponds, and Warden Bidelspacher kept in the background as a guest.

But from the time we parked in a field beside the Miller pond until darkness put an end to the meeting, the Warden was talking to one after another of the farmers and their wives who were at the demonstration.

Some asked questions about fish and water and weeds in ponds. Some talked about fishing. Many of them just made friendly conversation.

And that, I think, adds a final duty to those performed by the Fish Warden.

He has to merit the respect and the friendship—and also the support—of fishermen and of the owners of the land through which the fishing streams of Pennsylvania flow.

PENNSYLVANIA LAKES

(*From Page* 6)

erected them displayed a wise understanding of the problems of erosion.

One, of dry stone masonry back-filled with earth, as were most of the dams built then, was completed in 1846, forming Hankins Pond, in Wayne County, with a capacity of more than 117,000,000 gallons of water.

Incidentally, although skill was high, pay was low in the days this reservoir was created. Old records disclose that a construction superintendent was paid $2 a day and a boss mason $1 a day. Hankins Pond dam cost $25,000 to construct.

The Lackawaxen system of reservoirs is an excellent example of this type of water. These reservoirs controlled the flow of water into the Delaware and Hudson Canal and also definitely helped in flood control in the Lackawaxen River Valley.

Among the reservoirs still in existence in this system, in addi-

tion to Hankins Pond, are Beaver Meadow, or Belmont, Reservoir; Long, or Cramer's, Reservoir; White Oak Reservoir; Miller Reservoir; Reinings Pond; Cadjaw Pond; and the Upper Woods and Lower Woods Ponds.

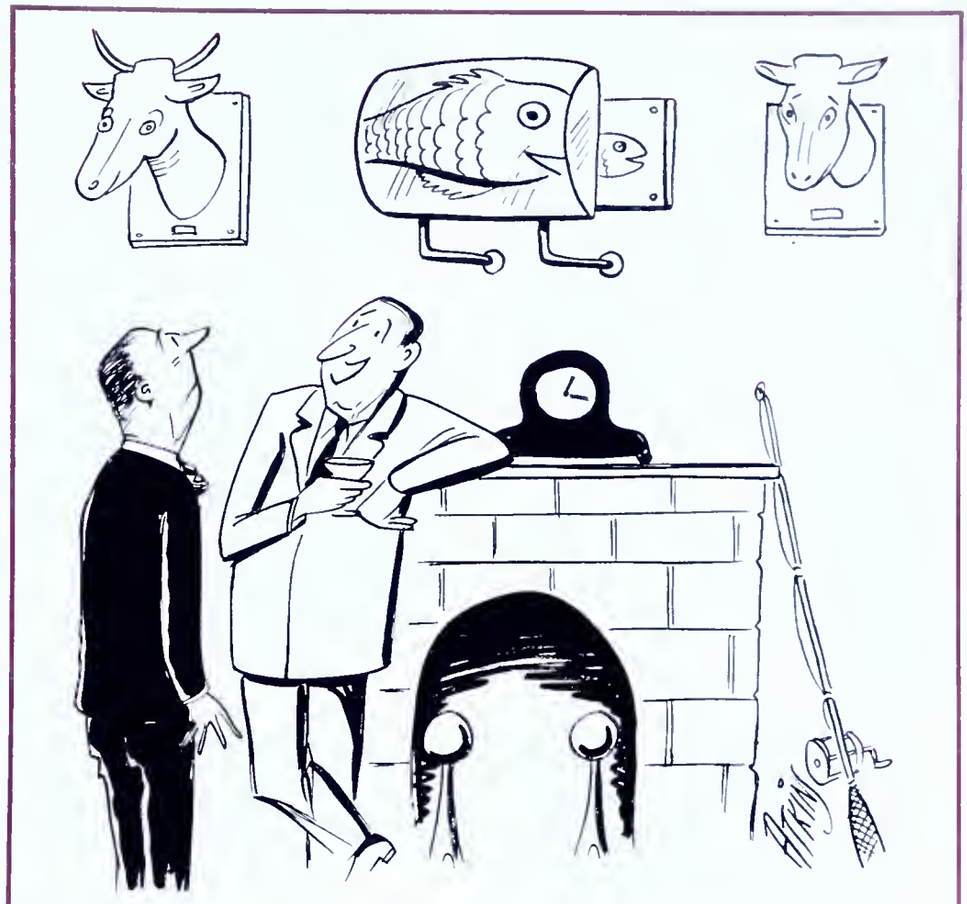
These reservoirs always have been useful far beyond their original purposes. After the canals no longer were in active use, ice was harvested from these ponds in the winter and stored, then during the summer period the ice was shipped to metropolitan districts.

This industry provided employment for many persons in these rural areas. Most of the industries naturally were located close to railroads, and even today the remains of mammoth old buildings where the ice was stored can be seen.

In the fall of the year it was customary to add copper sulphate to the water to destroy any foreign matter which might prove objectionable to buyers of the ice. During the winter the fish were semi-dormant, and the pathogenic organisms were inactive, so no ill effects were noted. But in the spring, when the water warmed and all living things in the water became active, there were likely to be fish killings in those waters where copper sulphate had been added previously. Because of the long delay between the addition of this substance and the fish killings, those interested in fisheries conservation probems did not for a long time associate the two.

Years ago, before the advent of modern fish laws, when these lakes were drained for inspection and repair, fish racks were erected, and the people would flock in and gather large quantities of fish, hauling them away literally by the wagonloads. Some were sold on the market, and others were salted and smoked for home consumption, so that even in this way these reservoirs were important in the economy of the people who lived near them.

Today five of them are being used as part of a modern fish hatchery—and are making a great contribution to better fishing in all parts of Pennsylvania.



"Oh, I just stuck that up there when we threw out the old television set."

ARE FISHERMEN LIARS?

(*From Page* 19)

a fish you left on the bank was stolen by a mink, no one believes it. They just think you are lying, to cover up failure to catch fish. If you say truthfully that you put back every fish you caught since you didn't want them to eat, and just wanted the fun of catching them, your non-angling friends look at you wisely and then break out in crude laughter. Such things hurt to the quick.

These cynics don't even believe true nature lore and think you are pulling their legs with a tall story when you tell them that you can turn a leech inside out and use its light interior as a bait, or that fish can change color to imitate the bottom on which they live. And just try telling them you have heard of fish like the climbing perch that can come out on land and walk around on their fins!

There is nothing in literature or history to give rise to the belief that anglers are liars. Most fishing books are filled with a quiet dignity or else are purely intructive. No one ever called Izaak Walton a liar. It is unfortunate that two of this country's most famous men, who were noted for their honesty and veracity, showed no interest in fishing. Had Honest Abe Lincoln and G. Washington gone fishing it would have done much to bolster the reputation of all anglers, but their outdoor activities were confined mainly to splitting rails and cutting down cherry trees, although G. Washington did show some interest in fox hunting.

What can be done to combat this unfavorable public opinion, this accepted belief that we are dishonest men simply because we fish, and the truth consequently is not in us?

The only solution I can think of would break the hearts of all anglers. That is, never to talk about fishing to anyone, not even to another fisherman. If we went on a fishing trip and returned without saying a word about it, and if we maintained a mysterious silence when asked the inevitable, "What did you ketch?" we would soon

acquire a reputation for wisdom and even honesty. People would think we were being secretive because we had found some spot where the fishing was superlative, or that we had caught many more than the law allows, and they certainly wouldn't doubt us because you can't lie when you don't talk.

However, such a solution is unthinkable. If we can't talk about fishing, then it's hardly worthwhile going fishing. Besides, we have such *interesting* things to talk about. Did I ever tell you about the time I was fishing off the Florida coast and the flying fish were so thick that we brought the galley stove up on deck, greased a pan and let our breakfast fall right into it out of the air? And, if you don't believe that, I won't believe your story about that pool where there were so many fish you could walk on their backs across the water without getting wet feet.

In the November issue of the ANGLER, John Alden Knight will present an article, "Gadgeteer," while Michael Hudoba writes on a timely subject, "Congress Looks At The Sportsman." Thad Bukowski has a yarn for the plugging boys, "The Battered Oreno" . . . plus other features you won't want to miss!

Pennsylvania Fish Law Violations

Cases settled during the month of August, 1951

ALLEGHENY COUNTY

Antantis, Stanley, 361—42nd St., Pittsburgh 6, Pa. Failure to display motorboat license plates ..... $ 5.00
Baranowski, Bernard, 115 Stem St., Pittsburgh 20, Pa. Illegal device ... 20.00
Barkley, Francis, Buena Vista, Pa. Reckless operation of motorboat .. 15.00
Bennett, Leslie E., 823 Vankirk St., Clairton, Pa. Illegal operation of motorboat 10.00
Bialick, Irving, 3515 Iowa St., Pittsburgh, Pa. Operating motorboat without a license 10.00
Bolam, John C., 114 Elm St., Edgewood, Pa. Illegal device 20.00
Briccio, Raymond P., Oakdale, Pa. Failure to display motorboat license plates 5.00
Clutter, Howard E., 3915 Superior St., Homestead, Pa. Exceeding creel limit 20.00
Cole, Wm. T., 160 Thompson Rd., Millvale, Pa. Failure to display motorboat license plates 5.00
DiBenedetto, Wm. N., 406 W. Wood St., Pittsburgh, Pa. Failure to display motorboat license plates 5.00
Elliott, Walter, 207 Freeport Rd., Blawnox, Pa. Illegal operation of motorboat license plates 10.00
Fidage, Rudy J., Broughton, Pa. Failure to display motorboat license plates 5.00
Fontaine, Rene A., Presbyterian Hospital, Lathrope & Terrace Sts., Pittsburgh, Pa. Illegal operation of motorboat 10.00
Foster, Mrs. A. C., 37 Station St., Pittsburgh, Pa. Failure to display motorboat license plates 5.00
Gremba, Chester J., 3217 Work St., Pittsburgh, Pa. Illegal operation of motorbaot 10.00
Hall, James F., 26 Terrace Rd., Carnegie, Pa. Operating a motorboat without a license 10.00
Hepp, Robert J., 16 Johnston St., Pittsburgh, Pa. Operating a motorboat without a license 10.00
Jones, Willia, Indianola, Pa. Illegal device 20.00
Lazewski, Joe, 898 Sawhill Way, Pittsburgh, Pa. One undersized bass ... 10.00
Lupinski, John, 337 Rosslyn St., Springdale, Pa. Two undersized bass 20.00
Macher, Jack G., 746 Frank St., Pittsburgh, Pa. Exceeding creel limit .. 20.00
Magdinic, Steve R., 1040 Nelson Ave., Brackenridge, Pa. Violation of the rules and regulations 20.00
Mazur, Bernard D., 610 Henderson Dr., Springdale, Pa. Fishing without a license 25.00
Misour, Joseph, 629 Henderson Dr., Springdale, Pa. One pike in closed season 10.00
Murray, John J., Middle Rd., R. D. 1, Glenshaw, Pa. One bass in closed season 10.00
Ondo, Mike, 13H Longfellow Dr., Homestead, Pa. Failure to display license plates on motorboat 5.00
O'Shell, Clinton, Jr., 657 Calera St., Hazelwood, Pa. Exceeding creel limit 20.00
O'Shell, Isaac, 26 Hillborn St., Pittsburgh, Pa. Two undersized bass .. 20.00
Pallner, Sebastian, 2224 Dellrose Ave., Pittsburgh, Pa. Exceeding creel limit 20.00
Panek, Ervine E., 145 Comrie Ave., Braddock, Pa. Operating motorboat without a license 10.00
Perhacs, Chester, 1705 Butler St., McKeesport, Pa. Reckless operation of motorboat 25.00
Ploss, Wm. E., 7th St. Ext., Trafford, Pa. Illegal device 20.00
Provasnik, Mrs. John, 2513 Grandview Ave., McKeesport, Pa. Failure to display license plates on motorboat 5.00
Roman, Rodger T., 416 Bowerhill Rd., Pittsburgh, Pa. One short bass and violating rules and regulations ... 30.00
Rothbauer, Anthony, 1008 W. Grant Ave., Duquesne, Pa. Fishing without a license 25.00
Runk, Joseph D., 234 Pearl St., Pittsburgh, Pa. Failure to display license plates on motorboat 5.00
Schaffer, Estelle, 50 Bridge St., Etna, Pa. Fishing without a license 25.00
Sepbrosky, Mike, 161 Promenade St., Crafton, Pittsburgh, Pa. Failure to display license plates on motorboat 5.00
Smith, John, 1807 Corey Ave., Pittsburgh, Pa. Reckless operation of motorboat 25.00
Stein, Frank H., 680 Owendale Ave., Pittsburgh, Pa. Lending license 25.00
Steriff, H. W., 28 Spring St., Etna, Pa. Failure to display license plates on motorboat 10.00
Stinson, Seth R., 212 Chester Ave., Pittsburgh, Pa. Fishing without a license 25.00
Sucky, Anna M., 908 Excelsior St., Pittsburgh, Pa. Reckless operation of motorboat 10.00
Traynor, Thomas F., 1012 Chartiers Ave., McKees Rocks, Pa. Failure to display license plates on motorboat 5.00
Turiak, John P., New Kensington, Pa. Operating a motorboat without a license 10.00
Unger, Andrew, 1618 Locust St., Pittsburgh, Pa. Operating a motorboat without a license 10.00
Urbanski, Casimir, 39 River Ave., Natrona, Pa. Rods and lines not under immediate control 20.00
Vinski, George, 301 Butler St., Etna, Pittsburgh, Pa. Failure to display license plates on motorboat 10.00
Wasiecko, George, 1788 Arlington Ave., Pittsburgh 10, Pa. Fishing without a license 25.00

ARMSTRONG COUNTY

Cleis, Austin, 1024—9th Ave., Brackenridge, Pa. Failure to display license plates on motorboat 10.00
Edwards, Alvia, Cowansville, Pa. Exceeding creel limit 30.00
Hepler, Arthur, Craig Apt., Arch St., Kittanning, Pa. Illegal operation of motorboat 10.00
John, Raymond M., R. D. No. 1, Adrian, Pa. Permitting motorboat to be operated without license plates 10.00
Whitman, Roy M., R. D. No. 4, Kittanning, Pa. Operating a motorboat without a license 10.00
Willets, Edgar C., 1339 4th St., Ford City, Pa. Operating a motorboat without a license 10.00

BEAVER COUNTY

Flick, Robert H., Route No. 1, Beaver, Pa. Failure to display license plates on motorboat 10.00
Furness, Richard, 3763 McCabe Ave., Baden, Pa. Fishing without a license 25.00
Harchick, Wm., Jr., 338 River Ave., Aliquippa, Pa. One undersized bass 10.00
Murray, Edward, Jr., 634 Third Ave., Beaver Falls, Pa. Exceeding creel limit 20.00
Murray, Edward, Sr., 634 Third Ave., Beaver Falls, Pa. Exceeding creel limit 20.00
Zishkau, Walter L., Jr., Rt. No. 1, Industry, Pa. Failure to display license plates on motorboat 5.00

BERKS COUNTY

Bolig, John A., 917 Oley St., Reading, Pa. Loaning a license 25.00
Devine, Raymond, Wernersville, Pa. Fishing without a license 25.00
Faust, Guy H., 432 Elsie St., Shillington, Pa. Failure to tag minnow box anchored in stream 20.00
Myers, Wm., 1 Endlich St., Mt. Penn, Reading, Pa. Fishing without a license 25.00
Orrs, John W., 247 S. Front St., Reading, Pa. Illegal device 20.00
Yeager, James W., Spring Valley Rd., R. D. No. 1, Temple, Pa. Lines and rods not under immediate control 20.00

BLAIR COUNTY

Brown, Daniel, Martinsburg, Pa. Fishing without a license 25.00
Bupp, E. J., 205 Main St., Bellwood, Pa. Failure to display license plates on motorboat 5.00
Drake, Duane C., 429—8th Ave., Altoona, Pa. Reckless operation of motorboat 20.00
Getz, Melvin C., 1507 Madison Ave., Tyrone, Pa. Illegal device 20.00
Ghaner, Phillip, 959—29th St., Altoona, Pa. Two undersized bass ... 20.00
Kauffman, Donald C., 1456 Penna. Ave., Tyrone, Pa. Failure to display license plates on motorboat 10.00
Mastrocola, Frank L., 1501 Jaggard St., Altoona, Pa. Failure to display license plates on motorboat 25.00
Nicodemus, Wm., 1115—21st St., Altoona, Pa. Exceeding creel limit .. 20.00
Shaw, A. Blair, 3904—5th Ave., Altoona, Pa. Reckless operation of motorboat 25.00
Troxel, James V., 894—29th St., Altoona, Pa. Reckless operation of motorboat 5.00
Wineland, Benj. F., R. F. D. No. 1, Martinsburg, Pa. Fishing in nursery waters 100.00

BRADFORD COUNTY

Benjamin, Floyd, Towanda, Pa. Three undersized bass 30.00
Gould, Ray, Wyalusing, Pa. Two undersized bass 20.00
Gould, Ray, Wyalusing, Pa. Exceeding creel limit 150.00
Stephens, Mrs. Emma, Rummerfield, Pa. Exceeding creel limit 200.00

BUCKS COUNTY

Cook, John B., 226 Penn Valley Terrace, Morrisville, Pa. Fishing without a license 25.00

BUTLER COUNTY

Cipolla, Mrs. Mauro, R. D. No. 5, Butler, Pa. Fishing without a license .. 25.00

Ferne, Donald I., 412 Hazel Ave., Butler, Pa. Exceeding creel limit 10.00
Geibel, Harold, 208½ 3rd St., Butler, Pa. Failure to display license plates on motorboat 10.00
Reynolds, Raymond E., Box 298, Mars, Pa. Failure to display license plates on motorboat 5.00

CAMBRIA COUNTY

Charney, Steve, R. D. No. 1, Box 283, Johnstown, Pa. Fishing without a license 25.00
Echard, David D., R. D., Ashville, Pa. Fishing on a closed stream 20.00
Partsch, Raymond J., R. D. No. 3, Box 148, Johnstown, Pa. Failure to display license plates on motorboat .. 5.00
Roudabush, Roy H., 826 Gillespie Ave., Portage, Pa. Fishing in a closed stream 25.00
Zedeci, Helen, R. D. No. 1, Barnesboro, Pa. Fishing without a license 25.00

CARBON COUNTY

Dotter, Leon, Albrightsville, Pa. Violation of the rules and regulations .. 20.00
Kibler, Harvey, Albrightsville, Pa. Violation of the rules and regulations 20.00
Miller, Howard F., 20 E. Mill St., Nesquehoning, Pa. Violation of the rules and regulations 20.00

CHESTER COUNTY

Dean, John, Box 838 West Chester Pike, West Chester, Pa. Exceeding creel limit 10.00
Quigley, Donald, 423 Breckenridge Ct., Phoenixville, Pa. Operating a motorboat without a license 25.00
Tholand, Daniel, R. D. No. 1, Spring Valley, Pughtown, Pa. Exceeding creel limit 40.00

CLEARFIELD COUNTY

Hoyt, James, Clearfield, Pa. Fishing without a license 25.00
Duck, Mrs. Russell, Loganton, Pa. Two undersized trout 20.00
Onufrak, Michael, Loganton, Pa. Twenty-six undersized trout 260.00

COLUMBIA COUNTY

Cope, I. C., 601 Brugler Ave., Bloomsburg, Pa. Fishing without a license 25.00

CRAWFORD COUNTY

Bishop, Wm. J., 508 Deissler Ct., Meadville, Pa. Operating a motorboat without a license 10.00
Blatchley, Clifford, Riceville, Pa. Fishing in a closed stream 20.00
Cornell, Robert A., Route No. 2, Meadville, Pa. Failure to display license on a motorboat 5.00
Mathews, John E., R. D. No. 2, Cambridge Springs, Pa. Failure to display license plates on motorboat .. 10.00
Mitchell, James F., R. D. No. 3, Cambridge Springs, Pa. Failure to display license plates on motorboat .. 5.00
Ott, George, 1012 Water St., Meadville, Pa. Failure to display license plates on motorboat 10.00

CUMBERLAND COUNTY

Uglow, Albert, 343 E. Fort St., Shippensburg, Pa. Fishing on Sunday without permission of landowner .. 25.00
Van Scyoc, Richard F., 29 E. Orange St., Shippensburg, Pa. Exceeding creel limit 10.00

DAUPHIN COUNTY

Ardrey, Huey R., Harrisburg, Pa. Fishing without a license 25.00
Arnold, Carl H., 435 Spring St., Middletown, Pa. Failure to display license plates on motorboat 5.00
Bouder, John, 405 Elm Court, Middletown, Pa. Operating a motorboat without a license 10.00
Cooper, Lester R., R. D. No. 2, Elizabethtown, Pa. Failure to display license plates on motorboat 5.00
Gaster, Charles E., 215 Emaus St., Middletown, Pa. Failure to display license plates on motorboat 5.00
George, John, Box No. 14, Middletown, Pa. Failure to display license plates on motorboat 5.00
Hess, Carl, 256 E. Main St., Middletown, Pa. Failure to display license plates on motorboat 5.00
Hess, Harold, 162 Water St., Middletown, Pa. Failure to display license plates on motorboat 5.00
Kern, John, 614 Wiconisco St., Harrisburg, Pa. Illegal device 20.00
Loesch, Mrs. Paul, 611 Muench St., Harrisburg, Pa. Fishing without a license 25.00
Miller, Harry W., Millersburg, Pa. Operating a motorboat without a license 10.00
Reigle, Earl L., R. D. 1, Middletown, Pa. Reckless operation of motorboat 10.00

DELAWARE COUNTY

Armstrong, John E., 819 Montgomery Ave., Bryn Mawr, Pa. Operating motorboat without a license 10.00
Belak, Norman, 188 Balignae St., Woodlyn, Pa. Reckless operation of motorboat 25.00
Klein, George A., 1456 Burmont Rd., Havertown, Pa. Operating motorboat without a license 10.00
Marshall, Elizabeth, 3712 Highland Ave., Drexel Hill, Pa. Fishing without a license 25.00

ELK COUNTY

Steward, Wm., Brandy Camp, Pa. Fishing in closed period 25.00

ERIE COUNTY

Cramer, Glenn, 2915 Penna. Ave., Erie, Pa. Fishing with three rods 25.00
Curtze, Fred, R. D., Edinboro, Pa. Failure to display license plates on motorboat 5.00
McIntyre, Arthur, 130 W. 16th St., Erie, Pa. Fishing without a license 25.00
Noakes, Walter, Nagle Rd., Lawrence Park, Erie, Pa. Fishing in closed waters 20.00
Pfirman, Valentine, 347 E. 17th St., Erie, Pa. Fishing with three rods .. 25.00
Schuster, Merle, 132 W. 23rd St., Erie, Pa. Illegal device 25.00
Shaffer, Albert, 335 Essex St., Corry, Pa. Illegal operation of motorboat.. 5.00
Wilkins, Enima, 1701 Peach St., Erie, Pa. Illegal device 25.00
Wilkins, W., 1701 Peach St., Erie, Pa. Illegal device 25.00

FAYETTE COUNTY

Lowry, W. A., Dunbar, Pa. Violation of the rules and regulations 20.00
Moore, John C., Box 105, Merrittstown, Pa. Operating a motorboat without a license 10.00
Pierce, Harry E., South Connellsville, Pa. One undersized bass 10.00
Provance, James, Dunbar, Pa. Violation of the rules and regulations.. 20.00

FOREST COUNTY

Weaver, Paul J., Tionesta, Pa. Exceeding creel limit 10.00

FRANKLIN COUNTY

Martin, Arthur E., R. D. No. 4, Chambersburg, Pa. Rods and lines not under immediate control 20.00
Shinafield, John, 498 S. 4th St., Chambersburg, Pa. Exceeding creel limit 10.00
Shoemaker, George A., Jr., R. D. No. 4. Chambersburg, Pa. Exceeding creel limit 10.00

FULTON COUNTY

Smith, Richard G., R. D., Artemas, Pa. Fishing without a license 25.00

HUNTINGDON COUNTY

Detwiler, Emmert I., Huntingdon, Pa. Reckless operation of motorboat .. 25.00

INDIANA COUNTY

Eckenroad, Paul, 79 Maple St., Homer City, Pa. Illegal operation of motorboat 10.00
Sarnovsky, Joseph S., Dixonville, Pa. Fishing in a closed stream 25.00
Sarnovsky, Paul G., Dixonville, Pa. Fishing in a closed stream 25.00
Tedeski, John A., Blacklick, Pa. One undersized bass 10.00
Zias, Ann M., Box 64, Homer City, Pa. Loan and transfer license 25.00

JEFFERSON COUNTY

Heffner, Arthur, 112 Railroad St., Sykesville, Pa. Three undersized trout 30.00
Kozloski, Charles, 11 Paradise Rd., Sykesville, Pa. One undersized trout 10.00

JUNIATA COUNTY

Baney, Roy L., Thompsontown, Pa. Operating motorboat without displaying license plates 10.00
Waggoner, John W., Thompsontown, Pa. Operating a motorboat without a license 10.00
Waggoner, John W., Thompsontown, Pa. Operating a motorboat with the muffler plate removed 15.00

LACKAWANNA COUNTY

Brownlee, Thomas, Jr., 731 Minooka St., Moosic, Pa. Illegal devcie 20.00
Carlesky, Joseph, 1032 Prospect Ave., Scranton, Pa. Exceeding creel limit 20.00
Helbring, Richard, 1225 Beach St., Scranton, Pa. Operating motorboat with displaying license plates 10.00
Iannuzzo, Peter, 20 Main St., Greenwood, Scranton, Pa. Exceeding creel limit 10.00
Menichett, Louise, 1410 Main St., Peckville, Pa. Fishing without a license 25.00
Nutting, Wm. R., 643 Adams St., Scranton, Pa. Fishing in closed period 25.00
Ostrosky, Joseph, 1115 S. Main Ave., Scranton, Pa. Illegal operation of motorboat 10.00
Turnabe, Benjamin J., 532 Pittston Ave., Scranton, Pa. Operating a motorboat without displaying license plates 10.00
Van Wert, Burton, 1818 Meylert Ave., Scranton, Pa. Illegal device 20.00
Warksy, Jerry, R. F. D. No. 1, Olyphant, Pa. Selling bait fish illegally 100.00

LANCASTER COUNTY

Ebersole, Samuel, Elizabethtown, Pa. Operating motorboat without displaying license plates 5.00

LAWRENCE COUNTY

Bertalind, Balind, Box 318, Wampum, Pa. Operating motorboat without displaying license plates 5.00
Hunter, Paul, R. D. No. 2, Wampum, Pa. Fishing without a license 25.00
Perrotta, Bennie, Jr., 1110 Dushane St., New Castle, Pa. One bass in closed season 10.00
Rouzzo, Andrew, 201½ S. Ashland Ave., New Castle, Pa. Illegal operation of motorboat 10.00

LEBANON COUNTY

Bamberger, Leroy, 22 Mifflin St., Lebanon, Pa. Fishing in a closed stream 25.00
Kepper, Arthur, Lebanon, Pa. Exceeding creel limit 20.00

LEHIGH COUNTY

Eggers, Wm. E., 720 N. 2nd St., Emmaus, Pa. Operating a motorboat without displaying license plates .. 10.00
Glass, Samuel, 720 N. Maxwell St., Allentown, Pa. Operating a motorboat without displaying license plates 15.00
Heckert, Donald E., 710 S. Hoffert St., Bethlehem, Pa. Operating a motorboat on borrowed license plates .. 15.00
Jordan, Edward J., 878—3rd St., Fullerton, Pa. Fishing without a license 25.00
Kansas, Ralph A., 630 N. 22nd St., Allentown, Pa. Reckless operation of motorboat 10.00
Merkle, Cyril F., Fogelsville, Pa. Operating a motorboat without a license 10.00
Onyszcenko, Simon, 134 Green St., Allentown, Pa. Unnaturalized foreign-born resident fishing with resident fishing license 20.00
Snyder, Wm. N., 1222 Gordon St., Allentown, Pa. Operating a motorboat without a license 10.00
Switzer, Jethroe J., 816 N. Plymouth St., Allentown, Pa. Reckless operation of motorboat 25.00

LUZERNE COUNTY

Barnes, Edwin E., 308 Penn Ave., Dupont, Pa. Illegal operation of motorboat 5.00
Dremock, Michael, 824 E. 1st St., Hazleton, Pa. Exceeding creel limit 10.00
Fedder, John, 171 Main St., Sugar Notch, Pa. Two undersized bass .. 20.00
Griglock, Albert, 74—2nd St., Wyoming, Pa. One undersized bass .. 10.00
Kokinda, Peter, 578 Orchard St., Askam, Pa. Exceeding creel limit .. 20.00
Kuchinski, George, 204 Penn St., Lee Park, Pa. One undersized bass 10.00
Malski, Stanley, 107 Almond St., Dupont, Pa. Operating motorboat without displaying license plates .. 10.00
Sack, Joseph, 414 McClean St., Wilkes-Barre, Pa. Exceeding creel limit .. 10.00
Savage, Anthony, R. D. No. 1, Pittston, Pa. Violation of the rules and regulations 20.00
Schwartz, Christopher, 16 Lynch Lane, Wilkes-Barre, Pa. Two undersized bass 20.00
Seidel, Bruno, R. D. No. 1, Pittston, Pa. Exceeding creel limit 30.00
Tenzza, Felix, 89 Pulaski St., Wilkes-Barre, Pa. Exceeding creel limit 10.00
Timko, Michael, 32 Mercer St., Plains, Pa. One undersized bass 10.00
Wilson, John, 88 E. 7th St., Wyoming, Pa. Two undersized bass 20.00
Yanaskoukas, Paul, Stark St., Pittston, Pa. One undersized bass 10.00

LYCOMING COUNTY

Leitzell, Forrest E., 343 W. Fourth St., Williamsport, Pa. Operating motorboat without a license 10.00
Manko, Joseph, 2729 Brook St., Duboistown, Pa. Operating motorboat without displaying license plates 25.00
Sherman, Harris O., R. D. No. 1, Jersey Shore, Pa. Operating motorboat without a license .....

McKEAN COUNTY

Clark, Henry C., 51 Railroad St., Bradford, Pa. One undersized bass 10.00
Coy, Hugh D., Jr., 73 Ann St., Bradford, Pa. One undersized bass 10.00
Coy, Eugene R., 73 Ann St., Bradford, Pa. Fishing without a license .. 25.00
Happle, Harry A., Rixford, Pa. Exceeding creel limit 20.00
Holinoski, Frank J., 526 R. R. Ave., Johnsonburg, Pa. Exceeding creel limit 10.00
McNeill, Milo M., 12 Pine St., Bradford, Pa. Fishing without a license 25.00
Sewell, Wm., Jr., Box 22, Wrights, Pa. Fishing without a license 25.00

MERCER COUNTY

Barnett, Edward E., R. D. No. 4, Greenville, Pa. Exceeding creel limit 20.00
Caswell, Paul, 448 S. 8th Ave., Sharpsville, Pa. Operating motorboat without a license 10.00
Corine, James, 712 Park Ave., Farrell, Pa. Operating motorboat without a license 10.00
Syphrit, Carl, 434 Chestnut St., West Middlesex, Pa. Operating a motorboat without displaying license plates 5.00
Wharton, Howard, 340 Hamilton Ave., Farrell, Pa. Reckless operation of motorboat 25.00

MIFFLIN COUNTY

Erb, Gordon B., 713 W. 4th St., Lewistown, Pa. Operating a motorboat without a license 10.00
Harbst, Jacob A., R. D. No. 1, Lewistown, Pa. Operating a motorboat without displaying license plates .. 5.00
Innis, Richard S., 412 W. 5th St., Lewistown, Pa. Reckless operation of motorboat 25.00

MONROE COUNTY

Heckman, Floyd, Canadensis, Pa. Sunday fishing without permission of landowner 25.00

MONTGOMERY COUNTY

Frock, Samuel, 63 N. Charlotte St., Pottstown, Pa. Operating a motorboat without displaying license plates 10.00
Kean, Addis F., 106 Avon Rd., Narberth, Pa. Fishing in a closed stream 25.00
Mustoe, Roy E., R. D. No. 1, Beck Rd., Souderton, Pa. Operating a motorboat without a license 10.00
Stuebing, George H., 910 Pennypack Circle, Hatboro, Pa. One undersized pickerel 10.00

NORTHAMPTON COUNTY

DeMarco, Anthony C., Martins Creek, Pa. Catching & having game fish in possession during closed period.. 40.00
Farkas, Louis A., 1723 E. 3rd St., Bethlehem, Pa. Two undersized bass 20.00
Massieon, Andrew J., 1319 Jennings St., Bethlehem, Pa. Operating a motorboat without displaying license plates 10.00

NORTHUMBERLAND COUNTY

Buchanan, George M., Earl Hotel, Sunbury, Pa. Giving false information to secure a fishing license 25.00
Derck, Blaine, R. D. No. 2, Shamokin-Pa. One undersized bass 10.00
Lockwood, L. S., 41 S. Owl St., Shamokin, Pa. Violation of the rules and regulations 20.00
Snyder, Wilbur M., R. D. No. 1, Watsontown, Pa. Operating a motorboat without a license 10.00
Sobol, Stella, R. D. No. 3, Sunbury, Pa. Fishing without a license 25.00

PERRY COUNTY

Geary, James L., 424 Mulberry St., Newport, Pa. Reckless operation of motorboat 20.00

PHILADELPHIA COUNTY

Bruscia, Pasquale, 243 E. Elkhart St., Philadelphia, Pa. Fishing without a license 25.00
Cooke, Russell E., 3611 N. Boudien St., Philadelphia, Pa. Fishing without a license 25.00
Diaezuk, Peter A., 17 W. Thompson St. Philadelphia, Pa. Fishing without a license 25.00
Hatley, Prince, 8628 Midland Ave., Philadelphia, Pa. Operating a motorboat without a license 10.00
Kling, Sylvan B., 7634 Sherwood Rd., Philadelphia, Pa. Fishing without a license 25.00
Krowchena, George, 146 Fairmount Ave., Philadelphia, Pa. Loaning a license 25.00
Lacava, John, 1010 Rosalie St., Philadelphia, Pa. Operating a motorboat without a license 10.00
Prime, Frank M., 4904 Ceader Ave., Philadelphia, Pa. Fishing without a license 25.00
Rosa, Furio, 902 Pleasant Ave., Philadelphia, Pa. One undersized bass . 10.00
Stebben, Walter A., 4823 Hingessing Ave., Philadelphia, Pa. Operating a motorboat without a license 10.00
Stough, Howard, 717 Schillar Ave., Philadelphia, Pa. Operating a motorboat without displaying license plates 10.00
Sulivant, Wm., 41st St., Philadelphia, Pa. Fishing without a license 25.00
Westrum, Albert J., 19 Rich Ave., Philadelphia, Pa. One undersized trout 10.00

PIKE COUNTY

Murray, C. Edward, Jr., Blooming Grove, Pa. Operating a motorboat without a license 5.00

SCHUYLKILL COUNTY

Hohenstien, August F., 1834 Center St., Ashland, Pa. Allowing motorboat to be operated without displaying license plates 10.00
Kehler, Earl F., Hegins, Pa. Exceeding creel limit 30.00
Klein, Melvin M., Brockton, Pa. Operating a motorboat without displaying license plates 10.00
Miller, Clyde, 231 E. Center St., Mahanoy City, Pa. Exceeding creel limit 20.00
Osatschuck, Alex, Branchdale, Pa. Fishing in a closed stream 25.00
Rosenberger, Paul, 2243 W. Norwegian St., Pottsville, Pa. Illegal device ... 20.00
Stranko, Joseph, 10 N. Morris St., St. Clair, Pa. Operating a motorboat without displaying license plates .. 10.00

SNYDER COUNTY

Hummel, Guy W., Hummels Warf, Pa. One undersized bass 10.00
Meiser, Bertha, R. D. No. 2, Selinsgrove, Pa. One undersized bass .. 10.00

SOMERSET COUNTY

Schomer, Alfred J., 601 Mulberry St., Scottdale, Pa. One undersized bass 10.00

VENANGO COUNTY

Fitzsimmons, E. W., 524 W. 3rd St, Oil City, Pa. Operating a motorboat without a license 10.00

WARREN COUNTY

Borger, L. J., 1004 Conewango Ave., Warren, Pa. Exceeding creel limit .. 10.00

WASHINGTON COUNTY

Fini, Fred, Jr., 107 E. Lincoln Ave., McDonald, Pa. Three undersized bass 30.00
Garbart, Ross E., Box 113, Gastonville, Pa. Operating a motorboat without displaying license plates 5.00
Cross, Gerald D., 143 N. McDonald St., McDonald, Pa. One undersized bass 10.00
Hozdulick, John, 865 Meldon Ave., Donora, Pa. Fishing without a license 25.00
Jozwiakowski, Roman, 320 Key St., McDonald, Pa. Two undersized bass 20.00
Kefauver, Frank, 1st Ave., New Eagle, Pa. Exceeding creel limit 30.00
Kusman, Bud, Church St., Bentleyville, Pa. Illegal device 20.00

WAYNE COUNTY

Billard, Eugene F., R. D. No. 4, Honesdale, Pa. Fishing without a license 25.00

WESTMORELAND COUNTY

Blyston, Raymond, R. D. No. 2, Box 634, Greensburg, Pa. Illegal operation of motorboat 10.00
Boehme, Alfred, R. D. No. 2, Latrobe, Pa. Operating a motorboat without displaying license plates 10.00
Carion, Joseph A., Springdale, Pa. Operating a motorboat without life preservers 10.00
Lucas, Alfred S., 1023 Parkview Ave., New Kensington, Pa. Operating a motorboat without displaying license plates 5.00
Myers, Dwight, 102 Washington Ave., Vandergrift, Pa. Insufficient life preservers 10.00
Reed, Edgar L., Bolivar, Pa. Two undersized bass 20.00
Savalydriega, Joe, R. D. No. 4, Irwin, Pa. Exceeding creel limit 10.00
Smith, Thomas W., Greensburg, Pa. Operating a motorboat without displaying license plates 5.00

WYOMING COUNTY

Kubick, Steve, R. D. No. 1, Falls, Pa. Exceeding creel limit 30.00
Marabell, Lewis, Osterhout, Pa. Exceeding creel limit 100.00
Marabell, Joseph, Osterhout, Pa. Exceeding creel limit 100.00

YORK COUNTY

Beck, Robert, R. D., Wrightsville, Pa. Operating a motorboat without displaying license plates 5.00
Bono, Justin, 205 Graystone Rd., York, Pa. Giving false information to secure a fishing license 25.00
Breyer, Norman W., 523 W. Market St., York, Pa. Operating a motorboat without displaying license plates 5.00
Fink, Rodney, Etters, Pa. Operating a motorboat without displaying license plates 5.00
Kinard, Charles W., 613 Edison St., York, Pa. Fishing without a license 25.00

OUT OF STATE

Reed, Paul A., 1615½—16th St., Sacramento, California. Fishing without a license 25.00
Garvin, Lin D., Miami, Fla. Fishing on expired tourist license 25.00
Stein Edwin L., 2605 Garfield Ave., Ashland, Ky. Fishing without a license 25.00
Newman, Clyde F., 843 Kirby Place, Shreveport, La. Fishing without a license 25.00
Brooks, Robert E., 3413 Dunhaven Rd., Dundalk, Md. Fishing without a license 25.00
Cori, Claude, Jr., Sebiliasville, Md. Fishing without a license 25.00
Prenzel, Courtney G., Barton, Md. Fishing without a license 25.00
Houtz, John E., 2638 Brannon St., Baltimore, Md. Fishing without a license 25.00
Danner, Fredrick S., 163 Cedar St., Dedham, Mass. Fishing without a license 25.00
Sternett, Fredrick E., 2549 W. Grand Blvd., Detroit, Mich. Fishing without a license 25.00
Hartman, Jack, 517 W. Lowell St., Kalamazoo, Mich. Fishing without a license 25.00
Davenport, Earl E., 21 Park Ave., Pompton Plains, N. J. Operating a motorboat without displaying license plates 10.00
Denny, Ernest, 414 Johnson Ave., Englewood, N. J. Fishing without a license 25.00
Denny, Treble, 414 Johnson St., Englewood, N. J. Fishing without a license 25.00
DePalma, Anthony G., 120 Oak Place, Fairhaven, N. J. Fishing without a license 25.00
Glick, Norbert, 31 Grove St., Passaic, N. J. Fishing without a license .. 25.00
Stoever, Wm., 164 Princeton Ave., Bell Mawr, N. J. Exceeding creel limit .. 20.00
Barber, Howard A., Hamilton, N. Y. Fishing with illegal license 25.00
Bikoff, Arthur, 16-16 Court St., Brooklyn, N. Y. Fishing without a license 25.00
Bikoff, Lenore, 16-16 Court St., Brooklyn, N. Y. Fishing without a license 25.00
Clark, John R., 281 Avenue C, New York, N. Y. Operating a motorboat without a license 10.00
Daley, Newton E., R. D. No. 1, Newburgh, N. Y. Operating a motorboat without a license 10.00
Derham, George, 99 Fowler Ave., Newburgh, N. Y. Fishing without a license 25.00
Hill, Walter L., Ceres, N. Y. One undersized bass 10.00
Kossen, Henry, Jackson Heights, N. Y. Operating a motorboat without a license 10.00
Raymond, John, Ceres, N. Y. One undersized bass 10.00
Starkey, Herbert W., 7253 Metropolitan Ave., Queens, Long Island, N. Y. Fishing without a license 25.00
Blakeslee, Burr W., Kingsville, Ohio. Operating a motorboat without a license 10.00
Diller, Paul, Columbus, Ohio. Fishing without a license 25.00
Diller, Paul, Columbus, Ohio. Illegal operation of motorboat 5.00
Haverly, Edgar A., 261 W. Main St., Alliance, Ohio, Fishing without a license 25.00
Ipe, Myron, 1495 E. Midlethian St., Youngstown, Ohio. One undersized bass 10.00
Jackson, Linous, 2504 E. 14th St., Cleveland, Ohio, Fishing without a license 25.00
Richardson, Wm., 1068 Northview Ave., Barberton, Ohio. Operating a motorboat without a license 10.00
Taylor, Wm., 44 W. 2nd St., Girard, Ohio. Exceeding creel limit 10.00
Dana, George F., Oklahoma City, Okla. Fishing without a license 25.00

School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

Leaf-Turning Time

FALL is one time of the year when everyone notices trees. At this season, trees cease to be just background; they seem to step forward to become participants in the annual gawdy pageant coached each autumn by Mother Nature.

Years ago, trees were placed into two groups by someone who noticed that many of them each Fall lost their leaves while others retained them through the winter. He called the evergreen group, the *Softwoods*, and those that lost their leaves, the *Hardwoods*. The classification caught on and is still used today even though it is far from accurate because some so-called "hardwoods" are softer than many of the "softwoods."

Most of the cone-bearing trees (the conifers) are evergreen. There are several exceptions like the larch and the cypress which "drop" their leaves in the fall. The evergreen trees lose their needles, too, only they do not fall all at once. If you have walked through an old pine forest, you know the soil is deeply covered with old fallen needles.

The great majority of species of trees are deciduous; that is, they drop their leaves in the fall. Along about now a corky layer develops between the leaf stem and the branch to which it is anchored. This layer acts as sort of a wedge which pries the leaf from its support, and the leaf falls.

A few weeks before the leaves drop, the remarkable coloration occurs. Elms and poplars become yellow, sweet gums and maples turn red, and oaks change to brown or purplish-brown. Authorities tell us that in autumn food-making stops and the green part of the leaf . . . the part that changes water and carbon-dioxide to sugar . . . drains from the leaf. The other colors in the leaf, that have been hidden all summer by the green, now have an opportunity to shine through the transparent epidermis. Leaves don't exactly change color: the reds, browns, and yellows have been there all the time, and autumn gives the pigments a brief season to glow.

Stratagem with Bulbs

Every year about this time, when the once green shields of the Boston ivy are turning rust red, I plant a few more plump bulbs. I must resemble a squirrel, busy burying nuts. I take my trowel, plant a few bulbs, and mark the cache on my plot map. Here are a half dozen crocuses, or trilliums, or grape hyacinths; there are a few snowdrops, a handful of squills and pride-of-the-snow.

It's wise to follow the directions that accompany the bulbs regarding planting, for although most of these early-flowering plants are related (most belong to the lily family), they require different

The Tulip Is Valuable Hardwood.

habitats. Some want deep rich wood mold; some will do well in that wet spot; others require sandy, easily-warmed, well-drained soil.

Don't hide the bulbs in secluded nooks. Place them in spots that can be seen from the windows, where your folks and your brothers and sisters can watch them pushing brave or impudent faces into the late February and early March winds.

Very late winter and early spring is the season when I need squills and crocuses. A long winter such as we endured last year gives one the notion that spring just isn't going to return. There's nothing like a purple or gold crocus early in the year to mend one's faith. Let others plant fragrant summer flowers. I need the small but stalwart harbingers of spring more than roses.

Match-Quiz

Many trees have several common names. The Ginkgo is often called the Maidenhair Tree. Can you match the common names of these trees?

1. Bass-wood	A. Ash-leaved Maple
2. Boxelder	B. Buttonwood
3. Butternut	C. Hard Maple
4. Hackberry	D. Ironwood
5. Hop Hornbeam	E. Linden
6. Judas Tree	F. Red Bud
7. Red Maple	G. Soft Maple
8. Sugar Maple	H. Sour Gum
9. Sycamore	I. Sugarberry
10. Tupelo	J. White Walnut

ANSWERS (upside-down):

1-E, 2-A, 3-J, 4-I, 5-D, 6-F, 7-G, 8-C, 9-B, 10-H.

CHUCK, THE WARDEN, SAYS—

Few people have to be as immune to discouragement as the conservationist. Getting citizens to practice conservation is a slow business. It isn't that folks aren't interested. Everyone is interested in conservation . . . for the other fellow. To practice the wise use of our renewable resources, we need to "play Indian." Each year we have to save some for seed and allow room for that seed to grow. No sportsman is too old to "play Indian" this way.

Plant Crocus Bulbs Now—Photo Courtesy W. Atlee Burpee Co.

PENNSYLVANIA Angler

NOVEMBER
1951

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The Cover . . . A LONG WINTER'S NAP is next on the agenda for walleyes and old bronzeback. Going to bed with a full stomach is important. The plug casting artist gets busy as the waters turn cold. Model Doris Ritz, Red Lion, Pa., figures she has the right fooler for a big bass before season ends November 30.

—Photo by Bob Motter

George W. Forrest, Editor 1339 East Philadelphia Street, York, Pa.

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Carp Are N

In Half a C

By RICHARD F. WILLIAMSON

The fully scaled carp, such as this husky specimen, is the one most commonly seen by fishermen.

"OUR small patients have had a wonderful time fishing in the pond this summer and have caught many fish. Last night one was caught that weighed six pounds, and the small fisherman was extremely pleased."

When Arthur P. Goldsmith, secretary of the Children's Heart Hospital, of Philadelphia, wrote these sentences in a letter to the Pennsylvania Fish Commission he was not referring to trout or bass or any other species of game fish.

He was expressing the gratitude of boys and girls, confined to a hospital because of frail health, for the pleasure they have had during the last summer fishing for carp!

Mr. Goldsmith's letter is just one of many like it to be found in the files of the Commission—for every year between 35 and 40 tons of carp are stocked in 58 separate areas aggregating 869 acres of water. And untold hundreds of children, and adults too, who are unable to travel far for their fishing enjoy the sport in waters which otherwise probably would be barren.

Carp have been residents of Pennsylvania since 1879, when a number of them were brought from Washington, D. C., to the State fish hatchery at Donegal Springs, near Marietta, Pennsylvania. Two years previously Rudolph Hessel had brought 345 carp from Germany for the United States Fishery Commission.

The first carp in this state were stocked largely in farm ponds, from where over the years they spread into all parts of the commonwealth, until today most major bass streams have a rich population of these fish, and they also are found in lakes and ponds throughout the State.

Through the years, also, the carp has become a subject of heated controversy in the Keystone State. It has been accused of destroying the spawn and the young of other fish, of roiling and disturbing the water in which game fish live, of being worthless for the dinner table, and of being guilty of other "crimes."

But the carp also has its defenders, among them hundreds of fishermen who have found it to be

ll Bad

nigrant from Germany Has Achieved

a Place of Importance in the Balance of Pennsylvania Waters

This is a specimen of the mirror carp, which has scales in scattered patches on its body.

Fish Commission employes take carp from Pymatuning Reservoir to be stocked in ponds in metropolitan areas where they will provide sport for adults and children alike.

a smart, hard-fighting prize, and fishery technicians, who are convinced that the carp has great value and that it plays an important role in the balance of fish life in our lakes, ponds, and streams.

Carp are not as bad as they are pictured, say technicians of the Fisheries Research Laboratory of the Pennsylvania Fish Commission at Bellefonte. Today, in fact, the carp is regarded as a very valuable fish in our waters. It is playing an important role in the interdependence of aquatic life.

In the course of the commission's fish management program, for one thing, carp are removed from waters where they are over-

abundant and stocked in ponds, usually in large metropolitan areas, where the water is unsuited for other species of fish. Such a put-and-take program provides sport for children and for adults who cannot travel far for their fishing. The Children's Heart Hospital of Philadelphia is just one of the projects of this kind.

But what of the accusations against the carp? The fisheries technicians answer them, one by one.

Carp eat the spawn of bass.

Almost all fish will eat their own eggs and the eggs of other fish, and carp are no exception.

There are complaints that carp destroy the spawn of bass. During the spawning period the black bass is very pugnacious, and it is doubtful that a carp has the courage to tackle a voracious male bass. But other fish, such as sunfish, have been observed doing just that.

The sunfish are tricky. Four or five of them will approach a bass nest from different directions. The bass, intent on protecting its spawn or young, will chase one of them, and while it is thus engaged the others will raid the nest.

Carp destroy vegetation and roil up water to the detriment of other fish.

This is true where the carp, through an unbalanced condition, becomes abnormally abundant. But if there is a near balance between the carp and other fish in the water area—and this is one phase of the fish management program—it is not a serious problem.

Carp are bottom feeders, and in rivers and larger creeks that contain bass there is an abundance of natural food under rocks and other obstructions on the bottom. It is not unusual to see a school of carp working upstream, grubbing under and about coarse gravel and rocks, with a number of bass following closely behind and feeding on helgrammites, crayfish, and other food which the carp dislodged in their search for the lower forms of life on which they prefer to feed.

Carp are just a nuisance in a stream or pond.

There are several answers to that charge.

For one, in lakes and rivers where there is a goodly number of carp, an abundance of small fish of this species is rarely observed. Obviously something is using the little carp, and it is assumed that they are being eaten by other fish, such as bass and yellow perch. Whatever is consuming them would probably devour the young of other fishes if the carp were not present.

Carp that may be over-abundant in one body of water can be used to provide good fishing in other areas, as in the case of ponds in metropolitan districts. Incidentally, carp never are stocked in waters where they are not already present or where they might get into water systems which do not now contain them.

Sometimes carp actually can benefit a body of water. Carp, for example, destroy some of the spawn of the gar in Conneaut Lake and thus help to keep under control the number of this apparently worthless fish in the lake.

Carp can be blamed for poor fishing.

That is true in some cases. That is why directors of the fish management program are interested, among many other things, in studying the relation of carp with other species of fish in waters where the carp has established itself. But it is not a charge that can be applied without exception.

One example is the North Branch of the Susquehanna River. Not long ago sportsmen in that area suggested that the Fish Commission attempt to remove all the carp from the river. Yet the summer of 1951 produced excellent fishing in the North Branch, even though the carp remained.

A more striking instance is the Pymatuning Reservoir. Ever since its creation carp have been over-abundant in that vast expanse of water, even though a great many sportsmen enjoy carp fishing there and the Fish Commission removes many thousands of them annually for stocking elsewhere. Nevertheless, angling for game fish at Pymatuning is outstandingly good.

Carp are unfit as food for human beings.

Certainly, the technicians have heard the story about nailing a carp to a plank, baking it for half a day, and then throwing away the carp and eating the plank—but they do not believe it.

One of the reasons the carp was welcomed in Pennsylvania half a century ago was that fish was a major item in the diet of the people. Carp have been highly regarded on the dinner tables of Europe for centuries. They still are in demand in the markets of some of the largest cities in this country.

The story of the carp in Pennsylvania, however, is not wholly one of answering charges against the fish. There are at least five points definitely in favor of the carp—and it is well to know them because the carp does have a place in the waters of Pennsylvania when it is properly controlled.

First, the carp is hardy. It is able to endure extremes of heat and cold and can live in almost any pond or stream where there is sufficient depth of water to protect it in extremely cold weather.

Second, the carp is remarkably productive. A female carp weighing between four and five pounds contains between 40,000 and 50,000 eggs. The rapidity with which young carp can be produced, under proper conditions, is obvious.

Third, the carp is able to live in some waters where no other food fish could exist. Thus it provides

THE FERTILE FATHEAD

Rabbit of Fishes

This tough little fellow may be small but he's amazingly successful in reproducing his kind.

By KEEN BUSS—Biologist
Pennsylvania Fish Commission

The fathead minnow (*Pimephales promelas*) is the rabbit of the fishes. The females may spawn as often as thirteen times in twelve weeks, laying about 350 eggs at one time. The male (shown above adorned with breeding tubercles) jealously guards the eggs that are laid under boards and stones in ponds and lakes. The incubation period is less than six days.

This tough little fellow, who attains a maximum length of about three inches, belongs to a group of mud-eating minnows and thus is not detrimental to other fish life. His biggest role in life, next to his reproductive capacity, is food for pan fishes such as crappies and perch and is an excellent bait minnow.

At the Bellefonte Hatchery in the spring of the year, 800 adult fathead minnows were stocked in two dirt ponds. The ponds were 30′ x 130′ and 30′ x 100′ in size, or a combined acreage of .154. In the fall of the same year, the ponds were drained and showed a production of 218,000 fish, having a total weight of 135 pounds, or a production of 843 pounds per acre, or 1,362,500 fish per acre. The fish were artificially fed upon daphnia and ground marine fish.

recreation in sections which otherwise would be barren of fishing opportunities.

Fourth, the carp grows with unusual rapidity, this depending of course upon conditions under which it lives, and the carp also is long-lived and attains a relatively great age. In the state fish hatchery at Linesville carp fry frequently get into bass ponds, where they eat the ground fish and liver which is put in the ponds for the bass. It is not unusual for a carp that has hatched in April or May to attain a weight of half a pound by September. Tests have shown that under favorable conditions carp will attain a greater size in one year than a brook trout will in four years.

Fifth, the carp is nearly omnivorous. It will live on purely vegetable food, although when opportunity offers it will take a grub or worm, and the larvae of aquatic insects are toothsome morsels for them.

There are three kinds of carp in Pennsylvania, all variations of the same species. The fully scaled carp is the most common. The mirror carp has scales scattered in patches over its body. The leatherback is scaleless.

Of the five largemouth bass fingerlings shown above the one in the center has turned black due to blindness caused by disease.

BLIND FISH USUALLY TURN BLACK

The mechanism which enables fish to adjust their color shade to approximately that of their surroundings is dependent on the normal eye. When blindness due to injury or disease occurs, fish lose their color-adjusting ability and usually turn black.

In fish hatcheries it is not uncommon to find blind fish which can generally be distinguished from normal ones by their very dark color. Black fish caused by blindness may also occasionally be seen in natural waters.

Arthur D. Bradford
Pathologist
Penna. Fish Commission

→

This is a close-up of a seven-legged frog caught by Buddy Shelander and Larry Cady, of Smethport. The amphibian got away from the boys and vanished—and it is believed that it was killed by a cat.

HERE'S A WHOPPER

BUT CAN YOU INDENTIFY IT?

—Photo by Charles L. Allen
North East, Pa.

SURE . . . IT'S A STURGEON! A 76½-pound, 5-foot, 4-inch male fish caught by Clarence Colburn of Harborcreek, off Shorewood, Lake Erie, recently.

You'll probably have to take it out of the lunker class and place it in the monster division even though it couldn't be entered in any contest. Mr. Colburn, veteran fisherman, a former tugboat captain and now retired, had set his lines for this big one. He set the lines about three miles out into Lake Erie in the deepest spot he could find. On his line were a number of hooks, six to eight feet apart.

Colburn said he figured he had a big one when he picked up the line and had to use two gaffers to get the fish into the boat. A dozen hooks were embedded in the thrashing sturgeon. One gaff, in landing the big fish, was bent out straight and Colburn later had to crush the skull of the monster, yet it was still alive six hours later.

The veteran angler was very happy about the catch but he certainly wished it was a female containing roe, which would have brought a fancy price. But, as it turned out, he shipped old man Sturgeon off to New York market for a price of $1.45 per pound.

Colburn has been fishing off the beach for more than a score of years, catches catfish, ships them off to the Chicago markets at good prices.

The bait, in case you're going for sturgeon, was a hunk of pickled sucker.

All Quiet Along the Wissahickon

By JOHN F. BOYLE

One fishes with ghosts of the Patriots along Philadelphia streams though the sound of musketfire and cannon are heard no more.

THE Revolution is over. In and around the city of Brotherly Love, with its more than 2,000,000 inhabitants, there has been peace for more than a century. Much of American history was made, written and published here. Anglers fishing two fine streams flowing within the borders of this great metropolis do not easily forget the price men paid for freedom even in those distant Revolutionary days.

Though the struggle for the same kind of freedom goes on elsewhere in this troubled world there is peace and a quiet natural splendor along the Wissahickon and Pennypack. Both are rich in history and legend. Each represents an oasis, a restful retreat from the roar and noise of city streets. Tired men with great burdens find them close at hand, some seeking to capture fish, others to recapture their equilibrium after too many rides on the merry-go-round!

As a member of the Holmesburg Fish and Game Protective Associa-

THE WISSAHICKON valley is a six-mile long narrow strip of Fairmount Park, widest at Valley Green being about one mile. Deer have been seen in the vicinity.

THE PENNYPACK at one of the falls near Frankford Avenue. Saturdays and holidays it is usually swarming with youngsters. The photographer had a rough time umpiring a fight between three dogs that wanted into the act.

tion perhaps I should describe the Pennypack Creek first as it flows through our clubhouse grounds. Holmesburg, now part of Philadelphia, was named after Thomas Holmes, a surveyor who laid out the city of Philadelphia for William Penn.

Penn wished the new city to be "a fair greene country towne," and although the original town has grown into a bustling modern city, the community of Holmesburg is still a quiet residential place that would gladden the heart of the peace loving Quaker. A long, narrow park, Pennypack Park, runs from the city line to the Delaware through which flows Pennypack Creek.

Until recently it was thought to be too warm for trout although a fine place for bass and pan fish. Near the mouth is a favorite spot for catties and eels but altogether too warm for trout. Up stream, however, it is cool and clear with numerous bathing beaches and bathhouses patrolled by lifeguards in the summertime.

Hereabouts it was decided to try stocking trout and the experiment has proved to be a huge success. Twice a season over 2000 brown and 2000 rainbow are released for happy anglers. What particularly

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INDIAN ROCK, tribal meeting place of local Indians stands out in startling, almost alabaster whiteness, 70 feet above the steep green gorge of the Wissahickon.

SKIRMISH SITE of Revolutionary days was marked by this bronze tablet erected in 1907.

By Michael Hudoba,

Washington Editor
of Sports Afield Magazine
for
The Pennsylvania Angler

Congress Scans the Average Sportsman

YOUR EDITOR asks me how Washington sees Mr. Average Sportsman. That is an easy question, for I can say that any sportsman who takes an interest in the affairs of government to improve his outdoor opportunity and to fight for conservation-restoration is not an average sportsman. He is a sportsman - conservationist and above the average, thus closing this subject. But there is a little more to the story.

Washington was in its usual turmoil; and the House of Representatives more so than usual. They were ravelled up and floundering in debate on foreign aid and world salvation, when up popped a Congressman. He began to recite a poem he had received that morning from a sportsmen's club in his district.

"We do not ask for tax relief, no, that is not our wish
We only ask, with all respect, can you get us any fish?"

The Speaker of the House smiled broadly as a wave of laughter echoed across the floor and an air of good feeling replaced the tenseness of the dignified chamber. A short time later, I noticed a group of members in a huddle at the back of the floor. One of them had his hands spread to show the kind of measurement that means only one thing to the sign language of any angler.

Did the House of Representatives think that the sportsmen's group which sent the poem in were selfish? I say no. A short time later the same member in a committee hearing gave a strong case for watershed restoration as a basic need in flood control programs. This happens to be one of the interests that thinking sportsmen's groups are asking Congress to adopt, as a means to an end in improving their outdoor opportunity.

The Congress reflects the wishes of its constituency and there is not much doubt where this idea has strong support.

No, the sportsmen are not selfish, for they are showing their interest in conservation for tomorrow's fishing and hunting and outdoor opportunity. And they get plenty of sympathy in their views from the Congress.

The Speaker of the House himself is an ardent angler and often slips away for a relaxing session on the stream and Chesapeake Bay. Numbered among the 435 members are a liberal segment of fishermen, including some mighty expert bait and flyrod artists. Congressmen are human too, and they fall into the same group that can say one of each five adults in this country fishes or hunts for recreation. They are apt to play hookey too, when the word gets out that the fish are hitting. And I can safely say that not all legislation is won on the floor of the House.

In fact, when the fish aren't hitting, it may have a negative effect on some legislative item dealing with same. Recently three Congressmen who happened to be members of the same committee went down to the Chesapeake Bay for a rock fishing expedition. The fish didn't respect the lawmakers' lures anymore than they did any other anglers that day.

The next day a bill to limit the size of rockfish that could be sold in the District of Columbia came up before the Committee. It was a measure to bring the D. C. law into conformity with neighboring states to prevent dumping of illegal-sized fish on the Washington markets.

One of the unsuccessful fishing Congressmen moved to shelve the bill. "Since this is not the first time I've had the same luck with rockfish," he said, "I've decided the fish don't need any protection."

It was a statement made in levity; but the response from local sportsmen was so sharp and intense that the member promptly relented and agreed to take leadership in bringing the rockfish measure up again.

Yes, the average sportsman of this country can laugh and joke about his fishing experiences; but he does take the business of fish restoration-conservation seriously.

It is a rare thing to have a bill that has been vetoed by the President, passed again by Congress, and signed by the same President. That is what happened on the federal aid to states sports fish restoration bill, otherwise known as the Dingell-Johnson Act, which is financed by the excise tax paid by sportsmen on sport fishing tackle.

The only reason this became law to give a jumbo-sized shot of adrenalin to the nation-wide sport fish programs, was because the fishermen-conservationists of this country wanted this measure as a constructive step in getting more bites per hour. And they were more than articulate enough to their representatives in the Congress to force the issue through a series of legislative log jams.

The sportsmen's wants and wishes are respected plenty in the halls of Congress and you may be assured that any member who is interested in his future in Washington keeps a pretty close ear to the grass roots where sportsmen trod.

During the economy moves, and subsequently when defense items took precedent over domestic budgets, Congress saw to it that the only agency other than defense agencies which didn't get drastic budgets cuts was the agency dealing with fish and wildlife.

And the one slash that was made in the Fish and Wildlife Service budget was the result of a one-man drive by a lone member of Congress who was trying to start an economy wave. The aftermath resulted in one of the most unusual dinner parties held on Capitol Hill. This Congressman had used the technique of ridicule to wheedle through a cut in fish and wildlife research funds on the basis of an undelicate paragraph in a scientific publication on raccoons put out by the Fish and Wildlife Service. He further questioned the need of publications on raccoons, saying the only good 'coon hunters he ever knew couldn't read or write. He found out they could.

While this unhappy member was dodging brickbats and wading through a flood of letters that poured into his office, a group of 60 Congressmen, through the invitation of Rep. Frank Boykin, Chairman of the Subcommittee on Conservation of Fish and Wildlife, held a dinner party with raccoon as the piece de resistance. Only one invited guest didn't show up. He already had had enough raccoon. Incidentally, the budget cut was partially restored.

Every item of proposed legislation which sportsmen have supported during the seven years that I have been covering Washington and Capitol Hill, has become law. And, brother sportsmen, that is a record which few other groups can claim in this country. I don't know of any more realistic proof of the respect that the sportsmen of this country have in Congress.

It wasn't always like that though. Only since sportsmen as individuals and as organized clubs and groups of clubs have become alert, well-informed and articulate has this phenomena taken place.

The sportsmen's fight for the outdoor opportunity, while it does bring direct benefits to give him a better break for fishing and hunting, is also far beyond a selfish benefit. And serious minded lawmakers are studying the well-informed, logical letters coming from their constituents which seek to implement conservation programs.

Their demands for pollution abatement go beyond the direct result of better fishing, for it also points out the value of clean water to the economy of the area, the enhancement of land values and the immeasurable public health

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Ye Compleat Gadgeteer

By JOHN ALDEN KNIGHT

Mr. Knight declares too many anglers carry so much gear they bulge at the seams, often in obvious discomfort. Yet, only a small percentage of the stuff is actually used on trip after trip astream. Those who have suffered from aching backs agree it's about time we got down to essentials!

A FEW years ago we journeyed out to Wisconsin to fish for bass and musky. We had heard a great deal about Mississippi bass fishing and the musky fishing to be had around Hayward, Wisconsin and Flambeau Flowage, so we decided to sample some of it. Two friends of ours, both Wisconsin residents, had volunteered to make all arrangements.

In due course the four of us met at Madison and then drove over to Prairie du Chien where we spent five days fishing for bass. Then we drove north to Hayward and installed ourselves in a camp at Ghost Lake. This was my second fling at the muskys and I was anxious to see what I could do in northern Wisconsin where almost all of the world's records are fixed on these big scrappers.

In the other car I had seen a bountiful supply of tackle stored, tackle that was not used at Prairie du Chien. Our friends had not volunteered any information about it so I had adopted the policy of watchful waiting. Surely those mysterious boxes would be opened sooner or later.

The first evening at camp at Ghost Lake was spent in readying gear for the next day's fishing. Sure enough, out came the king-size tackle boxes to be opened in the living room of our cabin. Until that time I had fatuously imagined that I carried considerable tackle with me when I went bass fishing, but the display that those two boys spread about on the tables, chairs, beds and the floor showed that my gear was but a mere collection of samples; those boys really carried tackle.

Muskellunge, as you know if you have fished for them, are eccentric fish. They are so large that they have few natural enemies and they do not hesitate to show themselves if they happen to feel like it. They are big, stupid, arrogant fish, completely unpredictable. Moreover, fishing for them seems to do something to anglers who are otherwise normal. No doubt that explained the tackle supplies that those two fellows carried; at least, that is the only way I can account for it.

We fished for musky for four days and in that time I learned much about them and the men who

fished for them. Each morning those huge tackle boxes would be carried to the landing and deposited in the boats. Then would come the task of preparation. Once the rods were set up, the terminal tackle was sorted and distributed about the boats "where it would be handy." Plugs, spoons, bucktails and "bucktail trailers," wobblers, spinners, darters, and so on, *ad infinitium,* were spread in neat rows on the stern seats or hung on the bracings under the gunwales. It was all quite impressive. Needless to say, any quick move in the boat was hazardous in the extreme as there was always the chance of involvement with countless needle-sharp gang hooks.

With all this outlay of tackle, naturally I was curious to see what use would be made of it. Surely, I reasoned, no one man could fish with all of those lures in less than a month's time, and we planned to be there only four days. So I sat there in the boat, fished with the few musky lures that I had brought with me, and watched the proceedings. For four full days I rode in the same boat with this fellow and I watched him set out his gear each morning and pack it up again each evening. How many of the lures did he use? Exactly *three* of them. The others merely encumbered the boat, made movement difficult, and rode along as excess baggage.

In June, 1950, I drove to Quebec where I met four other trout fanatics who were scheduled for a ten-day trip to northern Laurentide Park. In that party was a gentleman from the middle west. I noticed that the trunk of his car was well loaded with tackle but I did not know the extent of his preparations until we were moving into camp. Those guides were round-shouldered before they had finished lugging gear and stowing it about the cabin. During his entire stay he used only one of the ten fly rods he had brought along. This rod, one reel and line, his fishing jacket and four fly boxes actually were used. The rest of his stuff was stumbled over and pushed around from place to place each day of our stay.

Accumulation of tackle seems to take the form of a hobby with some fishermen. They haunt the sporting goods stores and devour the contents of the outdoor magazines. Any new and unusual gadget which has even the remotest association with their favorite sport is an automatic sale. The result is that their homes are museums which delight the hearts of fellow gadgeteers, to the everlasting exasperation of their long-suffering helpmeets. How some wives put up with having so much useless gear cluttering up their homes is something that is beyond my understanding. I'm sure that the lady of my choice wouldn't stand for such nonsense for one minute and I make my living, indirectly, from fishing and shooting.

It is not difficult to recognize a confirmed gadgeteer when you meet him on lake or stream. Invariably he bulges with excess equipment. The pockets of his fishing jacket are filled to overflowing and his car is packed with enough gear to stock a sporting goods store. It goes without saying that he can't begin to use all this tackle in a month of Sundays but he carries all of it with him, just in case. On a bass fishing trip, for example, another angler might catch a big bass on a Whooper

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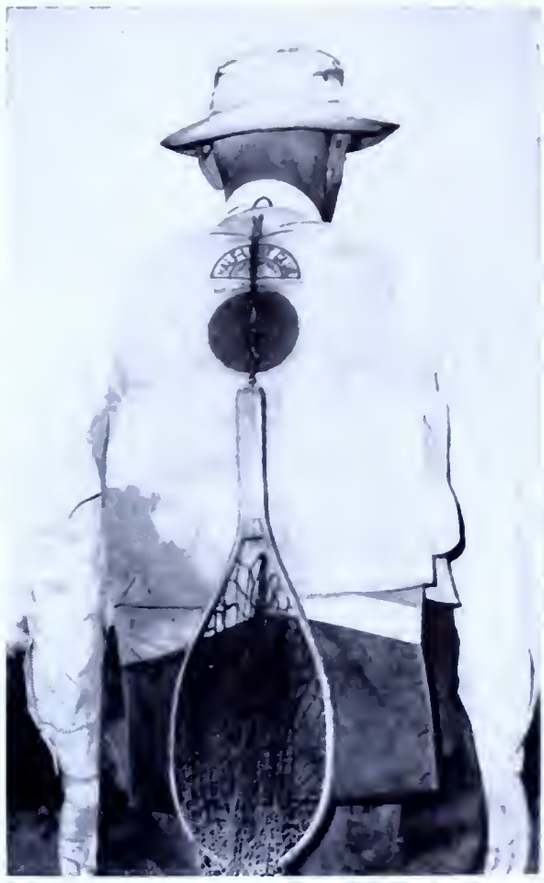


Two Views of Fishing Jacket

On the right front of the jacket is a large pocket to hold a large fly box for big dry flies, size 12 and up. On the inside of the front lapel is a flat patch pocket which holds my wet fly box. This box contains approximately 200 unsnelled wet flies in various sizes.

The upper left front lapel holds a pocket for dry-fly oil and a pocket for scissors or leader clip. At the lower part of the lapel are two pockets, one for leader box and one for a small box of small dry flies, size 14 to 22.

Inside the left lapel is a zipper pocket holding such things as thermometer, insect repellent, line dressing, etc. . . .

In the rear is a flat pocket across the middle of the back which can hold such things as a raincoat or lunch package. Attached to the lower part of the back is a removable cloth creel. This creel has waterproof material next to the body and nylon mesh on the outside. Fish can be slipped into the creel from either side. The creel can be unzipped from the coat, turned inside out and washed with no trouble.

Note that the landing net is suspended from a strap fastened to the collar of the jacket. This can be flipped over the shoulder when needed and until that time the net in no way inconveniences user.

Are Wader

By R. E. ANGST

The writer says "NO" and bases his opinion on the actual experiment pictured in this article which appears to refute the theory you could be a "Drowned Duck" if you went in over the tops. Every wader wearer should read this one.

YOU'VE all heard the stories. They make headlines every year . . . "A man wearing waders slipped and fell while trout fishing and only heroic efforts on the part of his buddies saved him from drowning," "It's sure death to get washed off your feet in fast water while wearing waders."

Sometimes these stories get so wild they are really fantastic. Being a skeptical sort of a fellow I didn't always believe them. Remembering a little of my high school physics I really began to have "my doots."

It seemed that the air imprisoned in waders ought to act somewhat like a life buoy and keep one floating . . . at least for a while. It also came to mind we remembered reading where a man jumped off a bridge into a river while wearing waders and having no trouble getting out safely. His pals figured he must have been a very good swimmer because an ordinary man, in their opinions, would find his head going down while his feet stayed up, then he'd be worse off than ever.

There was but one thing to do. Don the waders, jump in and see what happened. Now there are nine sons in this family of ours but only one Dad. Aside from this, Dad is getting too old for stunting, doesn't especially care to get wet when the water is cold.

From the ranks came a quick volunteer, Roy E. Angst, Jr., No. 2 son with . . . "Dad, do you think you know just what you're talking about?"

"Don't I usually?" I asked.

"Of course," came the reply. "Lets go!"

So now we know! Never again be afraid to wear waders while stream fishing. In fact, within certain limits, you are safer with waders on than without them.

Last week, one afternoon, my No. 2 son jumped into the East Side swimming pool in Pottsville, Pa., wearing a pair of heavy "bootfoot" Hodgman waders, complete with chain "neverslips" and did practically everything in the water except stand upon his head and

Death Traps?

walk out on his hands and was never in the slightest danger of drowning.

The first test was simply to wade in waist deep and fall over. With draw string tight he took plenty of time to get back on his feet . . . three minutes to be exact, timed by watch. Not enough water entered the waders to wet his feet. He proceeded to walk out with the greatest of ease, had no trouble regaining his feet.

With partially filled waders he next jumped off the diving board. Turning on his back he found he floated as nicely as if sitting on an inflated inner tube. The waders acted exactly as expected . . . much like a life buoy. Allowing them to fill up, he found that his feet gradually got heavy but not so heavy as to prevent floating or make swimming bothersome or impossible. He couldn't kick freely with the waders filled with water but neither did he have trouble staying up or moving by arm pull.

The clincher was reached when he went in without draw string and allowed the waders to fill rapidly and completely. Again it took longer for them to fill up than one might suppose, and again he had no trouble regaining his feet. What's more, when once on his feet the waders anchored him to the bottom as if he was glued there and it would have taken a torrent to wash him off his feet. Yet, as he lifted them he found they weren't at all heavy, had no difficulty walking.

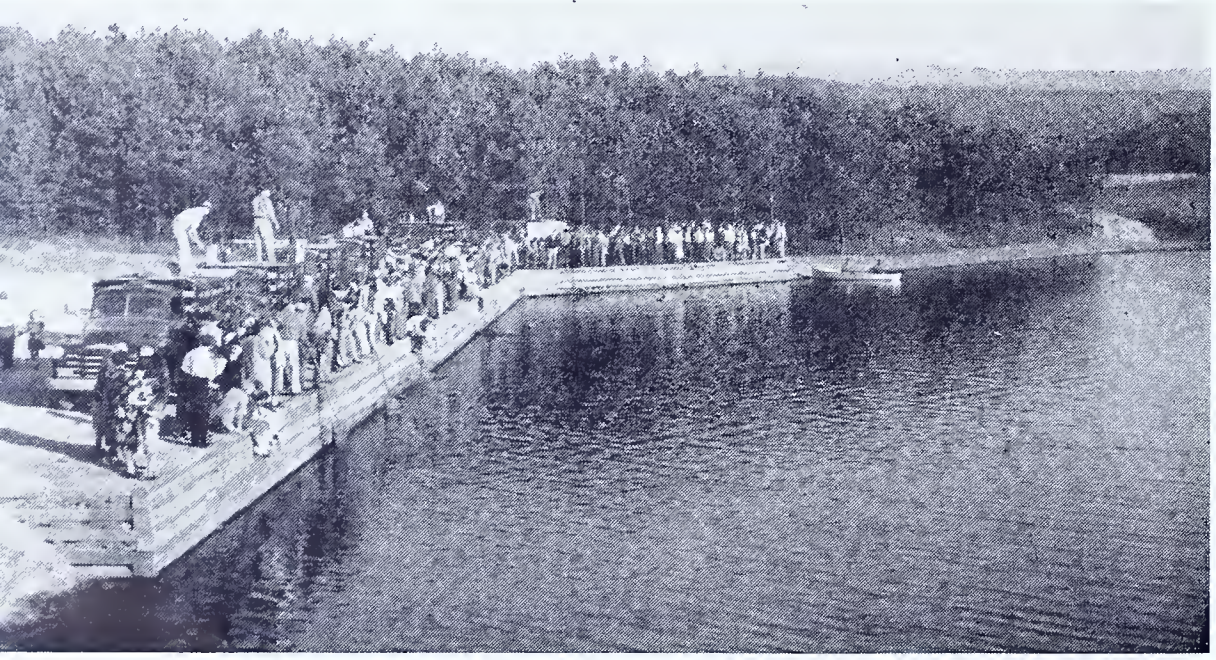
It appears that once lifted off the bottom the water pressure equalizes and one can walk rather handily though slowly and while standing still, can withstand terrific pressure.

The following conclusions were safely recorded from this test: For the first two or three minutes, with draw string tight, you are safer in any water wearing waders than without, and that would include falling in off a boat or stepping into water over your head. It is doubtful if there is a trout stream in Pennsylvania out of which you couldn't get to safe, hard footing by that time.

With draw string loose, permitting water to enter the waders freely, you still have TIME before they fill up . . . time to scramble toward shore or safe footing. If you don't make it you're still not

(*Turn to Page* 28)

▲ Bernard S. Horne, Pres., Penna. Fish Commission, Admiral M. F. Draemel, Sec., of Department of Forests and Waters agree with C. A. French, Executive Dir., Penna. Fish Commission the dedication of Shawnee was a red letter day in 1951 Pennsylvania Week activities.



▲ Six Pennsylvania Fish Commission trucks unload consignments in Shawnee Lake to provide fishing enjoyment for the public.

▼ Eager crowd watches C. A. French, Executive Director of Pennsylvania Fish Commission place first net-full of fish in the lake. At left in uniform is Harold Corbin, District Supervisor South-Central District which embraces the new lake area.

DEPARTMENT
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ON FRIDAY, October 19, 1951 Govern
mission's program for the Schuylkill
of fish into the stream. The Governor wa
plain the values to be obtained from t
Pennsylvania Department of Forests and

The ceremony took place at a spo
short distance above Phoenixville. The
marking event which signals the return
and cleansed waterway. Governor Fine po
clean wholesome recreation but will furth
structure of the Philadelphia area in the
use; thus improving the public health a
by Adm. Milo F. Draemel, Secretary of
E. "Teague," Secretary of the Pennsylva
Pennsylvania Supreme Court, an early
in the "Clean-up the Schuylkill" program
initiated the program, William Burk of
Norristown, who is a member of the Sta
Federation of Sportsmen's Clubs.

C. A. French, Executive Director of
stocking program set up for the Schuylk
net full of fish placed in the waters of
first net full of fish to be placed in thes
first consignment of some 100,000 fish wh
Mr. French informed the gathering that
to five years of age and it is reasonable
lished in the Schuylkill River. Include
shiners.

SHAWNEE LAKE, BEDFOR
STOCKE

THE stocking of Shawnee Lake in Bed
another page in the progressiveness o
our state, Pennsylvania, first rank in ma

The splendid cooperation exemplified
large recreational center in which the
our rapidly diminishing fishing waters.

What once was grazing land for live
these fish will thrive abundantly, furnish
water fishing areas in the State. Not only
the metropolitan families will have ampl

The principal speaker for this dedicat
ment of Forests and Waters, who comm
sylvania Fish Commission, for making it

Executive Director French, addressing
operation with the Department of Forest
ment of this lake by the Pennsylvania

Mr. French then instructed the drive
signments of fish which came from thre
will be stocked in this lake before the en
of this allotment and a variety well plan
the lake.

After the dedication, the fourteenth
ation of Sportsmen's Clubs was held at
quet table to the convention hall, a well

The principal speaker for the evening
Federation of Sportsmen's Clubs. Mr. Fu
facts only, and not rumors when sending
men and the Fish and Game Commission

Guest speaker was the Honorable Be
mission. Mr. Horne stated that the beaut
County. He also stated that aside from
mission was doing everything possible to
in and about our large metropolitan are

Mr. Horne stated further the Pymatu
where many of the Pennsylvania Fish C

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VER.

, inaugurated the Pennsylvania Fish Com-
g for the first time in a decade a net-full
hused and his fine address served to ex-
Clean-up" program, as conducted by the

y known as Black Rock Pool, located a
many people who witnessed this epochal-
dank, polluted Schuylkill to a reclaimed
ot only will the stream once more provide
outstanding improvement to the economic
supplies for both domestic and commercial
the area. The ceremony was presided over
ers. Among the speakers were Dr. Russell
of Health, Judge Grover Ladner, of the
n waters and one of the very early leaders
Brunner, father of the Brunner Bill which
Fish Commission, Henry Brownbeck of
er Board, and S. Dale Furst, Pres. Penna.

Fish Commission explained at length the
ylvania Fish Commission. He said—"This
iver today by Governor Fine is the very
period of many, many years. It is the
d in the Schuylkill during the next week."
of legal size, the bass being from three
fore long fishing will once more be estab-
were catfish, sunfish, yellow perch, and

IALLY OPENED TO PUBLIC,
00 FISH

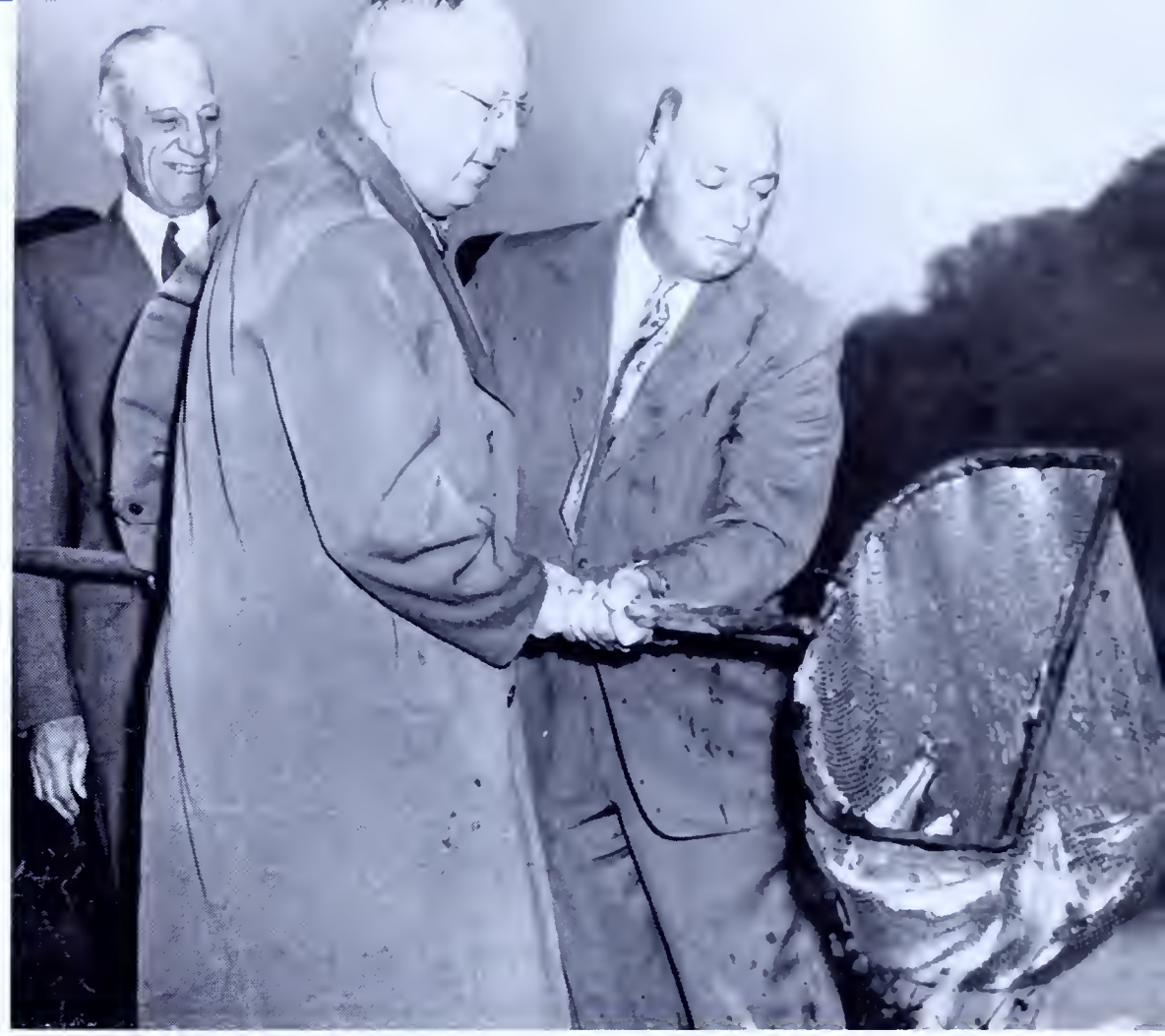
the Pennsylvania Fish Commission marked
ments of the Commonwealth which assures
ors.
te Park is the direct results of another
rtsmen can well appreciate in the face of

ley is now a beautiful fertile lake in which
unty and vicinity one of the finest warm
benefit from this new body of water, but
recreational outings of all types.
M. F. Draemel, Secretary of the Depart-
French, Executive Director of the Penn-
y call this a red letter day.
of people, stressed the fact that close co-
as resulted in the stocking and manage-
now, and in the years to come.
ish Commission trucks to unload their con-
ate Fish Hatcheries. A total of 19,000 fish
These six trucks represent a large portion
n Management Unit for the well being of

sponsored by the Bedford County Feder-
ings Hotel. On adjournment from the ban-
m of speeches and entertainment followed.
ale Furst, President of the Pennsylvania
the importance of "getting the facts, the
to joint meeetings of the Federated Sports-

President of the Pennsylvania Fish Com-
as like adding another jewel to Bedford
ell stocked trout program the Fish Com-
ter fishing areas which we need more of,

was now reaching a high productive stage
m water fish are raised.



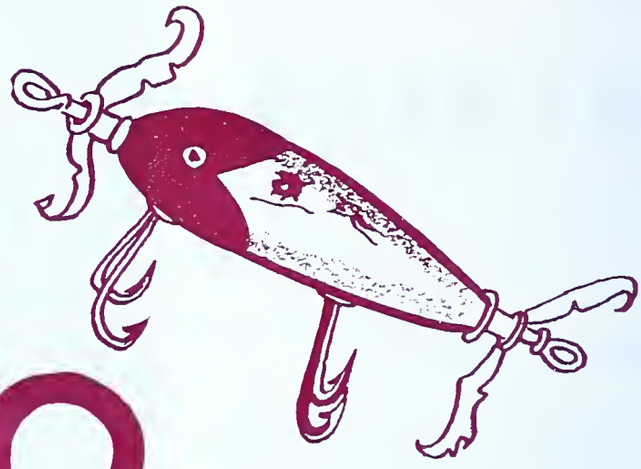
▲ Admiral M. F. Draemel, Secretary, Penna. Department of Forests and Waters, watches happily as Governor John S. Fine and C. A. French, Executive Director, Penna. Fish Commission place first official stocking in reclaimed Schuylkill River in over a decade.

Early Crusader for clean streams, Judge Grover Ladner, Pennsylvania Supreme Court declares his complete approval with the historic event in a speech to the attending crowd.

Among speakers was Dr. Russell E. Teague, Secretary of the Pennsylvania Dept. of Health, lavish in his praise of the great event in improving public health and sanitation.

▼ C. A. French and Governor Fine jokingly compare notes on size of fish stocked in Schuylkill. Admiral Draemel takes no exceptions to the "off-the-record" measurements.

The BATTERED ORENO



By Thad A. Bukowski

Sometimes you forget a treasured bait and discard it like an old shoe. Here's a story about a beaten and forgotten Bass Oreno that had IT.

BILL KLEE and I work at Haney's Furniture at New Castle to make the added moola that we don't quite reach in our aspirations on our regular jobs. Oftentimes, when business is slow, and there isn't a good television show on the main floor next to Bert Miller's desk, which we of course only periodically indulge in observing, the conversation turns to the outdoors.

Bill's a fisherman and so am I—an "old timer" and a "young timer" so to speak, and of course it's very interesting to swap stories. It's amazing what it sometimes does to one's fishing—and even to one's life. For instance, I shall ever be indebted to Bill Klee alone for getting me to put down ideas on paper.

Bill was having his usual smoke downstairs in the Appliances Department when he began voicing his opinion on the merits of various artificials and their bewitching qualities and enticing possibilities on big bass. After the discussion came to a summary I said: "In order," I remarked, "I'll take a yellow finish river runt, a gray shad, and for night plugging, a jitterbug."

"Mebbe so," Bill opined, "but you know which one will still get most of the bass, almost anytime?"

"No?" I raised a skeptical eyebrow and expected the usual joke for which Bill is so well known. But I was surprised to hear Bill's answer.

"I'll take the good ole Bass Oreno," Bill ventured. "Anytime, anywhere, all the way," he added, "that red headed wobbler's got an action that can't be beat."

You know, that got me to thinking. For the rest of the day at the store I tried to remember whether I still had this particular type of an Oreno among the numerous artificials that rested in the confusion of my tackle box, but couldn't remember really whether I had one or not. The more I thought the more aggravated I got at myself and finally I decided that I would have to investigate the situation immediately that evening.

My wife registered wide-eyed surprise when upon closing the door I headed for my tackle box and began exploring its confines. Looking at her puzzled gaze and questioning eyes, I laughed.

"No, I'm not crazy. I'm just looking for something."

"Like what?" she encouraged more out of curiosity and disgust than concern.

"A plug," I went on . . .

"You fool fishermen!" she exploded in typical feminine expletive.

I continued my explanation. "Bill Klee gave me an idea about a Bass Oreno and I want to see whether I've got mine in my tackle box."

"A who-Oreno???"

"A Bass Oreno. It's a red-headed plug that wiggles under water. Very fascinating," I added.

"And you've got to do it before supper?" the criticism came again, and smoky lines that I knew only too well furrowed her brow. "You fishermen!" she exploded once more, "clear that mess up before I really get mad!" I had scattered most of the contents of my tackle box on the kitchen floor, and it did resemble somewhat a woman's scramble into her purse, so she did have reason for the heated remarks.

"Do you know what?" I offered finally in laughing explanation.

"Yes," she said, "I know what. It isn't there."

"That's right, it isn't here."

"It's probably with all that other junk in that old box you have," she said, indicating a catch-all I kept in the garage, "but you better eat supper before you do any more exploring!" I listened to the threatening tone of voice and meekly cleared up the scattered contents of the floor, washed my hands, and ate.

Sure enough, when I got the first opportunity to explore the oily quagmire of my wooden chest that included numberless tools, I found the battered Oreno in its nether confines. I picked it up, half triumphantly and half wondering whether it was worth trying in its condition.

"Oh, well," I concluded, "I'll throw it in my tackle box anyhow, until I can get a new one."

When again I headed for the lake, I hadn't as yet had the opportunity to buy a new Oreno; in fact, I had forgotten entirely the commotion which happened in respect to it the other night.

We were on a good bass lake, so to speak, especially so considered because it was close to home. It was one of those local lakes that was hard to fish; it had in fact taken me two years to really learn its element—and expect successful fishing. And once I had learned its secret, which was mostly a particular type of persistence, I henceforth ventured onto it as though I were getting manna from heaven. And each morning or evening that I fished it, the manna was there in the form of two or three singularly nice bass, either large or smallmouths.

We pushed our boat off shore and set a course around the lake which we had learned to follow, a weedy shore here, a sunken log there, a protected inlet, a shallow sandbar—these and other places were such significant hideouts for the lunkers and semi-lunkers. And so we again began trying to lure them out of the depths.

That day I had troubles. After casting for a short period of time my reel stopped working with its characteristic effectiveness. No matter what I did or how I tried to cast, something thumbed it as though with an invisible giant thumber and it was with difficulty that I got the plug far enough towards the desired places I wanted to plunk it in, in order to present the most effective and alluring choice for the snapping gulp of a pugnacious whopper. In fact, I got downright mad at that reel and used the most effective sailor's expletive, epithet, and invective I could muster to make it work but all to no avail. My companion laughed at my frustration and ineptness and since that time I have learned to take two reels with me when going a-casting. It has been profitable I remember on more than one occasion. Once, I particularly remember that a screw fell off my level winding mechanism and I would have been hard put to continue my pleasure of fishing but for the spare reel.

Today, however, not only was I plagued with the troublesome reel but the bass were not only lethargic but downright indolent. We tried what we could, but for a few half hearted rises nothing happened.

It was a bright morning and the sun had already poked its streaking sharp rays in scattered directions and yet no bass. The wind troubled the waters gently. Our reels spun out periodically in singsong fashion and the plugs dipped quietly with each successful cast, or plunked loudly with an occasional backlash. No matter what we did, however, there was as yet no success.

"I'm about ready to quit," my brother Stan who was fishing with me, voiced.

Now, I'm the kind of fisherman who plays it all the way and who likes to stay out on the lake or in the stream as long as possible. Maybe not only for the fish but rather for the fishing which is the more important.

"Let's loaf the boat along the lake," I ventured. "I want to get this reel really working again."

"Okay," Stan conceded, "Ill row."

I busied myself with the contents of my tackle box in search of a screwdriver and some oil. Scattering the plugs which were in disarray, I chanced upon the battered Oreno and laughed as I reflected upon the other night's series of events.

"What's up?" Stan inquired as he looked at me.

"See this plug," I said as I lifted it out.

"Woeful looking thing, isn't it? Sure is loused up," he added. "No plug that's as self-respecting as that one should've gone through a period of existence that would make it look that bad."

"I forgot it," I lamely explained, "in a box with some stuff in the garage," as if that were sufficient information to explain its burial and reincarnation.

"No excuse," Stan replied.

By this time nothing mattered. "So what," I said, "I'll use it anyhow."

"In that shape," he snorted, "no self-respecting bass could or should see that!"

"Maybe one has radar," I laughed. "Besides, I'll clean it if I use it," I ventured. "Bill Klee was telling me it was the best in his tackle box and I'd so completely forgotten mine for so long I'm anxious to really know what it might do in a case like this. You know how desperate you get about a thing like this. You've lost confidence and want it restored."

I made a short cast from the boat, just to see how the plug appeared in the water. As I looked over the side of the craft I could discern no particularly unusual appearance either in its coloration in the water or in its action. I felt better, telling myself with semi-satisfaction that after all, all was well. In fact, I began feeling confident.

Stan stopped rowing as we approached a shoreline which was disrupted at the water's edge by a fallen tree. If the Bass Oreno were to succeed, this would be the most appropriate place.

"Well, here goes again," I spoke to my friend and let fly with the plug. There was a whirr which spoke sweet music of anticipation as my line arced towards the shore. The plug dimpled the water not a foot away from the land and nestled cozily close to the sunken

(Turn to Page 26)

GLAMOUR PUSS

IF I were to vote for the fish which contributed most to my enjoyment of days astream, the balloting would be a landslide for the common bullhead.

What about the speckled trout so plentiful in the streams of my youth? Or the scrappy bass which never failed us on the pellucid waters of Sand Pond or Echo Lake, if you please, now that it has gone modern?

It must be admitted that all fish from the sluggish sucker to the plunging landlocked salmon contributed to the all-around enjoyment of our sport, but the bullhead was a standout.

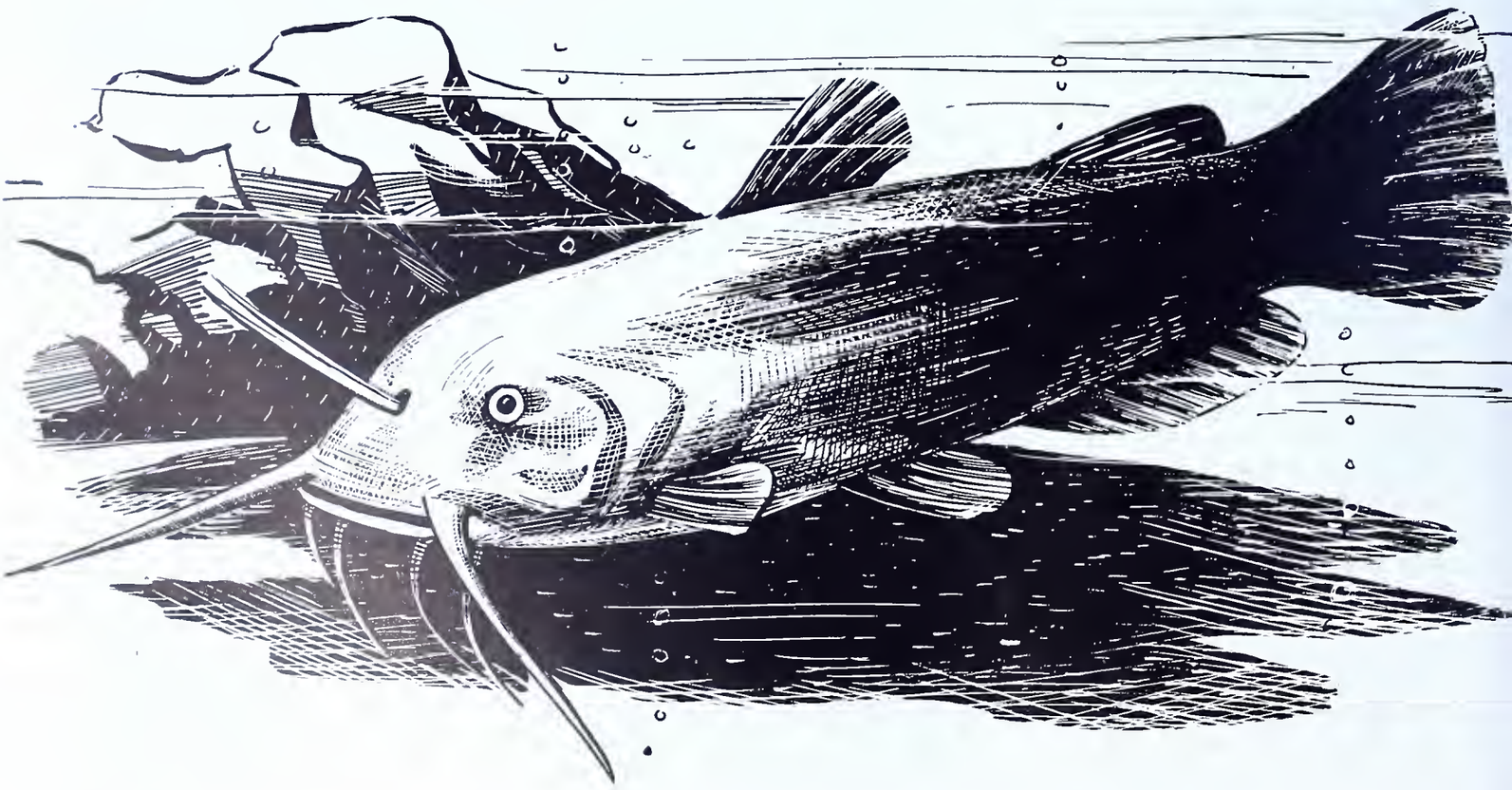
There are many reasons for this common and easily caught fish's popularity, but up near the top is that the bullhead comes into its own after the hours of darkness. It is then that he holds sway amidst the strange sounds issuing from the darkest shadows. A familiar fishing hole on pond or stream becomes at once one peopled with all the strange denizens which can be conjured up by a lively adolescent imagination. Why, even the more or less stabilized thinking of an adult may become a bit addled under mysterious nocturnal influences.

Then, there was always that chance of tangling with a real, he-man dweller of the forbidding depths or so they seemed to us, Spooner and I. If it wasn't for the fact that my twelve year old companion and I were pulling in walloping horned pout with clock-like regularity, I'm sure we would not have remained anchored to the fearsome twelve-foot depths at the crest of the dam impounding Bent's ice pond. It didn't matter much that before dusk Spooner had horsed in a fifteen-inch squaretail in the open spot practically edging No. 6 green of the local golf course. And in those days a trout was just another fish, one vastly less satisfying than the solid, stolidly lively bullhead.

Spooner and I were regularly drawn to those darksome depths above the dam as though the spot were a magnet. Regardless of where we happened to be on the pond when darkness settled, we propelled the old water soaked punt from which we fished, to the rim of the dam.

One night, just as the distant town clock was tolling eleven, the bullheads ceased biting. Spooner settled lower in the bow seat. I tried vainly to penetrate the opaqueness at my left and thereby shifted uneasily, the grating of big feet on the gritty bottom creating a monstrous sound.

Shortly my imagination began creating awesome creatures living in the Stygian depths below us. Then, it occurred to me with a shock that only a frail layer of boards separated us from all those horrors. Spooner softly cleared his throat just as something gave my forty-pound test line a terrific yank.



There's nothing finicky about a bullhead. Stick anything on his menu from Limburger cheese to hog maw and hominy grits, he'll gorge the works. But then the goat of the mud flats can be unusually suave, genial, elegant and glamorous!

By N. R. CASILLO

I froze into complete immobility until what little sense an impressionable thirteen-year old possesses, came to my rescue.

"I've got a whale!" I suddenly yelled.

In the reddish glow of the kerosene lantern I saw my companion shrink deeper into his seat. "'It's a fish," I breathlessly explained upon perceiving a look of fright cross his pinched face.

There was no finesse to my methods. I simply reeled in the line as though I was operating a windlass. Something had to give and it was the fish.

In a matter of seconds a slithering four-foot eel was unceremoniously hoisted over the sides. Spooner leaped into action and clambered atop a seat when the eel beat a slimy trail in his direction.

It was minutes before the chaotic careening of the big fish was brought under control, a burlap sack holding the slippery eel down as I endeavored to hack off its head with a hand axe. Yes, even the boat bottom shared in the punishment.

So, it can be easily understood why bullhead fishing fascinated us no end. We were always sure of a reasonable catch and frequently connected with the unexpected.

Recently, the bullhead saved the day or more properly, the night, for us on a sojourn to the bay at Erie. The early evening fishing essayed in a steady downpour netted us exactly one bass. Our guest enquired if there were any horned-pouts in the place.

"You mean bullheads?" returned Bill, the third member of the party.

"Yes, I guess so," uncertainly went on the man from New Hampshire. "They have whiskers and horns," he further explained.

"Bullheads," snorted Bill. "Why, I can take you to a spot where you can catch a bushel of them."

"Just a half dozen or so will do," laughed our guest.

Later that night while the rain beat a steady tatoo on the tight roof above our heads, we chatted and smoked as we caught bullheads through an opening in the floor of a boathouse. Our guest was as delighted as though the bullheads were so many bass.

There is nothing finicky about the bullhead. He makes no enquiries into the political affiliations of the fisherman, nor does he care a whisker whether he is black or white or otherwise. His gimlet keen eyes and keener nostrils are interested only in the bait suspended from the fisherman's hook. A gob of worms, a hunk of bullneck, a Limburger cheese sandwich or even a rusty tin can are grist for his mill. Yet, despite its catholic tastes the male bullhead can convoy a school of its succulent offspring without so much as swallowing one of the numerous pollywog-like creatures. The male is a model parent, the female carrying on the philandering traditions usually attributed to the male of most species.

In case you don't know it, a bullhead is equipt with three spines, the two pectorals as well as the dorsal fin being provided with the murderous weapons. And when a bullhead horns an unsuspecting thumb or if you chance to sit on one indiscernible on the bank where you tossed it, it grins from ear to ear and wags its tail in appreciative approbation. Yes sir, the bullhead derives genuine pleasure from giving one the horn.

The bullhead is the personification of fortitude. It is able to survive a night in a creel, a basket, a bag or whatever container you may be using, even a frost chest. They'll live for hours completely encased in the dust which they may have picked up while flopping about on a dusty bank.

However, the height of something or other is reached when the bullhead agreeably submits to an appendectomy or other major surgery so that the angler may recover his hook; grinning happily when the fisherman gives a final triumphant yank to release his tackle. When you gaze into the eyes of a bullhead as you tear the hook from some major organ or even pull the organ out through its mouth, the look there is a combination of determination, encouragement and cooperation, the angler expecting at any moment for the bullhead to burst out with an "Atta boy."

However, to get back to the serious business of catching bullheads, it is the epitome of pleasure because it can be indulged in by a quartet or even a quintet of fishermen seated in the same boat. If it is a festive occasion as it often is, the bullhead cooperates to the limit. Imagine four or five kindred spirits in a boat when the bullheads are doing their part. Compared to it mayhem is parlor play.

The experienced bullheader regularly tests his line. This, because some fish are wont to swallow the bait and then digest it on the spot. Accordingly, unless the line is regularly tested, the angler is sure to pull in his line to find his hook well down in the nether regions of his quarry. Then, there are times when the bullhead tears into the bait with the ferocity of a bass; the fish grabbing the bait and making off with it to its favorite lilypad or rubber boot.

An alleged friend of mine took me to task for passing up a bass fishing expedition for a night session with the bullheads. My reputed friend went on to add that the bullhead is nothing but a bewhiskered, sniveling guttersnipe

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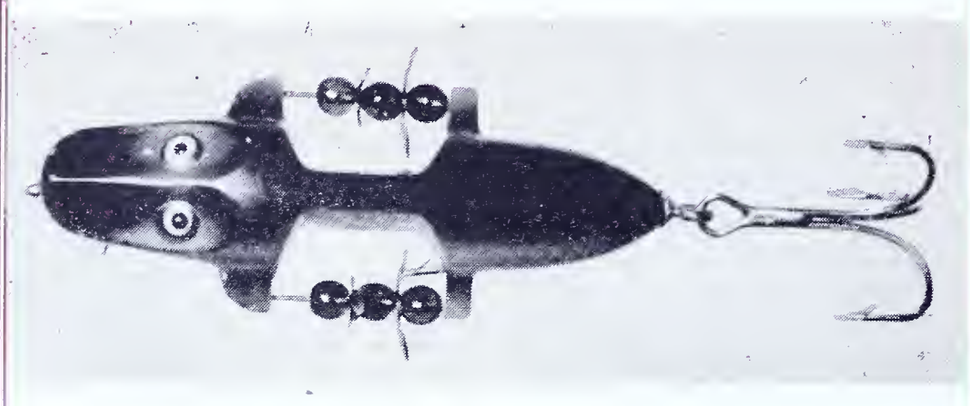
A New Lure is Born



By HERBERT N. SIKOV

Ever wonder whether some guys just lay awake all night figuring out new plugs? Here's an instance where a couple of wide-awake gents did their sleeping at night and tested out a new creation on bass by day.

Have you, as a fisherman, ever given thought to the creation of the fishing lures you use? Have you ever wondered what motive prompted some enterprising soul into creating a concoction of wood, plastic, metal, or feathers, into an attractive, fish-taking lure? Well, I have, and being an ardent plug caster, the origin of the various lures available to fishermen, has fascinated me. But, like so many of you, my only relations with lures consisted of their purchase and the eventual casting, until a surprising chain of events presented me with an opportunity to be present at the baptism of a new lure.

My introduction into this picture came as a total surprise, and I might add, a very pleasant one. For a good many years my fishing and hunting trips have been shared with a congenial buddy. This, coupled with a mutual interest in conservation, sportsmen's club affairs, and the love of the outdoors, had cemented our friendship. During the war years, we both served as special fish wardens under our local warden Cliff Iman. So I thought I had the guy pegged as a good Joe, never dreaming of the surprise that was in store for me.

For many years Frank Jurczak, who edits the popular HOOK, LINE & SINKER column in the three leading papers of Beaver County, and yours truly, shared the opening of the bass season in the beautiful waters of the Lagoons of Presque Isle Peninsula, at Lake Erie. These waters are ideal for casting, interspersed with lily pads, and weeds, they are the habitat of bass, pike, an occasional lunge, and the lesser varieties of game and food fish. We fished these waters several times a year, sometimes with good results, sometimes not.

Our tackle boxes are littered with a large assortment of plugs, and spoons, yet, there were times when no amount of casting with these old standby lures, would produce strikes. I guess every bait caster has experienced these occasions at one time or another. This particular summer quite a few years ago, we were experiencing a "dry year," and getting skunked too often to suit us. We fished in the dark of the moon, we fished in the light of the moon, and in between, finally, we just about gave up for the year.

It was several weeks after one of these fruitless jaunts, that Frank called me, and talked me into making one more stab at it, with the idea in mind, that if the trip boomeranged, we would take to knitting lace panties or some other safe hobby. We decided to go the following weekend. Needless to say, my heart wasn't in this trip. But suggest a fishing trip to your buddy, and you've got company.

We arrived at our destination and started out in the boat just as the first faint flush of dawn began breaking over the horizon. This is our favorite time for casting. We started with our favorite lures, which on past occasions had supplied many thrill packed moments. Not so now. Cast after cast, no strikes. Our spirits were beginning to sag and it seemed this trip too, was doomed to be a dry one.

We changed lures, tried spoons, utilized all of our retrieving tactics, without results. By now, the sun was casting its warm rays, and it was past mid-morning, and I, arm weary and cursing the red gods for interesting me in this so called sport, laid down my rod and settled for a little snooze.

The warm sun, plus a slight breeze combined with the slap of the water against the boat, soon lulled me into a relaxed state of semi-slumber. How long, I had no way of knowing, but I do recall hearing the oars dip faintly into the water now and then, and the slow steady casting of Frank. That guy just wouldn't give up. Suddenly, I was jolted into a state of semi-consciousness by a yell from Frank, telling me in no uncertain terms to get the net, as he had finally hooked a fish.

Since we often kid each other this way when one or the other of us dozes off, I didn't pay much attention to him. However, my lethargy was somewhat shaken off when I saw he really had one hooked. His face was creased with a smug, satisfied smile. I was still a little on the sleepy side as we boated the fish. It proved to be a largemouth which we judged to weigh about 3 lbs.

I was too surprised to say anything, and as Frank was untangling the bass from the net and unhooking the plug I started to cast, my spirits lifted, hope springing eternal. It seemed only a few minutes later that he yelled for the net again, by now I was wide awake, and there before my eyes was the fightingest bass I ever saw on the end of Frank's line. That fish tried all the tricks it knew in an effort to throw the plug. When I finally netted him, he was about the same size as the first one. Two nice bass in the space of a few minutes and it's surprising how swell everything looked.

As I reached into the net to lift this baby out I got the surprise of my life. There, dangling in the mouth of the bass, was a plug, a home made contraption, the like of which I had never seen before.

"What is it?" I asked. "A Christmas tree ornament?" He ignored my question and unhooked the bass prepared to cast again. Before I could utter another ward he sailed that thing out towards a clump of lily pads.

Wham! The water erupted into a swirling volcano. This one turned out to be another largemouth, larger than the first two. To say my curiosity was aroused would be putting it too mildly, I just couldn't contain myself any longer.

"Let's see what you've got on the end of that line?" I asked I wanted to have a good close look at this homemade lure that was catching fish, when the others weren't. Without a word Frank passed his rod over to me, and settled down for a smoke.

"Where did you get this?" "Whose is it?" "What is it?" these questions were fired by me with machine gun rapidity.

He looked at me with an amused and tolerant smile, and said. "Let's row over under the shade of the willows and I'll tell you how come. The lure is mine, I made it, and I don't call it anything, and as for what it is, you can see for yourself."

"Where on earth did you get the idea for the design?" I asked.

"Let's have lunch, and I'll tell you the whole story." Frank replied.

Over sandwiches and fruit, he related the story of the creation of this lure. Frank had given our fishless trips more thought than I did, but unlike myself, he

(Turn to Page 29)

— TACKLE TIPS —

"POPPERS FOR THE BASS FISHERMAN"

By Don Shiner

ANGLERS who frequently use fly rod popping lures for bass would undoubtedly like to make many of their own. It is, like making other artificial lures, one of the best hobbies any serious minded angler can acquire and it gives more than its share of satisfaction. So, in view of the popularity of the cork bodied bugs and the ease in which these are made, it might be advisable to discuss these lures and show how, with only a few materials, they can be made during the evening hours.

Similar to making streamers or dry flies, the vise is almost a necessity to hold the hook firmly while making this type lure. Then, the second necessary item is a hump-shanked hook. These are specially made hooks that have a hump or kink in the center of the shank so that the hook can be anchored securely within a cork. Some tiers put a droplet of solder on the shank of any ordinary hook and thus do away with the commercially made hump-shanked hooks. This method is perfectly satisfactory. In addition, a few small, old bottle corks, a few colored feathers, some lacquer and thread are the only other materials necessary for making these favorite lures of bass fishermen.

THE procedure starts with fastening a humped shank hook into the vise and wrapping the shank with thread. Ordinarily glue has a difficult time trying to adhere to steel or metal, so the thread wrapping facilitates this. Next, a common bottle cork should have a groove cut or sawed half way through it. A thin jig-saw blade is ideal for cutting this slot, and after the hook is inserted, the slot should be filled with cement and allowed to dry. To help bind the body fast to the hook, thread can be wound tightly around the outside of the cork.

Before the feather or hair attachments are added, is the proper time to paint the body with a quick drying lacquer. It can be spotted to represent a frog, scaled to imitate a minnow or painted the popular colors of red and white. Then, once the body is perfectly dry, the feathers for the tail or legs can be added. The tying thread can be wound around four or five hackle feathers and the hook, just to the rear of the cork body. One or two of these rooster hackles can be wound around the hook as shown in the illustrations.

Notice that the body in the illustrations is made bullet shaped with the flat surface at the forward end. Either the flat or a slightly concaved surface will make the bug a popping lure. On the other hand, if the body is reversed so that the peaked end is the leading edge, the bug will be a silent darting type.

When making these lures to represent beetles, the tail can be eliminated and a few feathers from a duck can be tied on top of the cork near the face of the lure to represent wings. Then again, some tiers prefer to drill a hole into the cork on both sides of the posterior end, insert and glue a bunch of hair to represent legs.

All sorts of variations can be made and there are few hard and fast rules in making them. One word of caution in making these bugs is to be sure plenty of room is allowed between the body and the point of the hook so fish are readily hooked. Other than that, the fishermen can make these lures to suit himself. Most any lure that flops, pops, or wiggles on the surface will attract bass. There are some time tested designs that make the best cork bodied bugs for bass.

Anglers who use these fly rod popping bugs should certainly try their hand at making them. It's fun and so is landing bass on these home-made lures!

ALL QUIET ALONG THE WISSAHICKON

(From Page 9)

pleases me is that so many youngsters who had always fished there for eels and sunnies now have a chance to really land big whoppers . . . browns and rainbows.

The other stream is the well-known Wissahickon. Lying in the northeast section of the city in the Chestnut Hill-Germantown and Manayunk areas this creek has been the mecca of nature lovers since the days of Edgar Allen Poe who described its pristine loveliness in the little tale called "The Elk." He compared it to a "miniature Alpine gorge." It flows between steep hills, thickly wooded, so that one can easily imagine himself to be far up in some Canadian forest with hardly a trace of civilization for miles except for the sight of a rustic bench or a bridge now and then. Wild ducks, herons, kingfishers and other forms of wild life scurry by or fly overhead. At intervals one comes across landmarks steeped in historic and legendary lore. At the entrance to the upper Wissahickon, where automobiles are forbidden, there is a bronze tablet attached to a large rock. It was erected in 1907 by the Pennsylvania Society of the Sons of the Revolution and reads:

> "On the morning of the Battle of Germantown, October 4, 1777, the Pennsylvania Militia, under General John Armstrong, occupying the high ground on the west side of the creek opposite this point, engaged in a skirmish with the left wing of the British forces, in command of Lieutenant-General Knyphausen, who occupied the high ground on the east side along the Schoolhouse Lane."

What a contrast to the present peaceful Wissahickon. One shudders to think of anyone disturbing its sylvan stillness by musketfire. Another place called Mom Brinker's Rock, now graced by a statue of William Penn, with the

word "Toleration" carved on its base, is where, according to legend, a matron known as "Mom" Brinker is said to have sat apparently knitting but letting her eyes search out the movements of the British and transmititng her knowledge to the Americans by means of notes hidden in a ball of yarn.

Near the banks of this stream are caves dug in the rocks made by would-be gold miners who thought they had discovered that precious metal only to have their dreams shattered when the mineral proved to be pyrite. These caves were later used by hermits. Sometimes I think Poe must have been inspired to write his poem "Dreamland" by this region—

> "Dim vales and shadowy floods, and chasms and caves, and Titan woods"—

But the ultimate in romance and the picturesque is Indian Rock, situated about seventy feet above the level of the stream upon which a gigantic figure of a kneeling Indian, tomahawk in hand, peers into the west. Some say he was meant to represent Teddyuscong, a well-known Lenni Lanape chief. The rock is supposed to be the site of their councils. It is difficult to see in the summertime unless you know just where to look but in autumn and winter it is a startling sight to come upon unexpectedly, rising out of the rocks and trees in its clear whiteness.

Many more places of interest delight the hiker or relieve the tedium of a dull, luckless day for the angler. No hot dog or hamburger stands are within the region, although there is an old inn, the "Valley Green" about midway along the five-mile course. Here one can get a square meal amid old-fashioned surroundings. The next place to satisfy hunger comes at the "Falls" a combination restaurant, candy store and swap shop on busy Ridge Avenue.

How the Wissahickon got its name is not perfectly clear. It is no doubt of Indian origin but some say it means yellow water, others that it means catfish stream. Surely there are a lot of the latter in the creek but the Fish Commission sees that there are plenty of trout released twice a year. Here is thanking them for their efforts along these lines and also for their crusade to end pollution and restore to all, young and old, the pleasant pastime that delighted the heart of Izaak Walton.

YE COMPLEAT GADGETEER

(*From Page* 13)

Dooper Ding Bat. Our gadgeteer has one of these in his collection. Should it come to pass that his own Whooper Dooper Ding Bat be left at home, not available for instant use, his entire week-end would be ruined. The fact that a Triple Wobbling Smarter Darter will take big bass just as well is of no importance. He must, no doubt to satisfy his gadgeteer's ego, have the exact item on hand at the exact time; otherwise he has been weighed in the balance and found wanting.

I am happy to say that I graduated from the gadgeteer stage many years ago. It being incidental to the job of outdoor writing that the writer be on the job rather regularly throughout the fishing season, I grew extremely weary of lugging with me large quantities of unused gear. Accordingly I started an all-out campaign toward compactness and reduction of weight. If you happen to be a gadgeteer, try this scheme. Reduction of gear, once it has been accumulated, is every bit as interesting as the original accumulation and far less expensive.

Take trout fishing, for instance. Did you ever figure how much excess, needless weight you hang on your shoulders each time you step into a trout stream? Weigh your fishing jacket, completely loaded; then strip it down to the absolute essentials and weigh it again. You'll be surprised.

Reduction of bulk, to my way of thinking, is every bit as important as reduction of weight. Bulky garments always are uncomfortable and a fishing jacket is no exception. Here are some hints on weight and bulk reduction.

If you are a dry-fly fisherman, you will need line dressing. Don't carry the full can with you. Instead, get from your druggist a small salve box, something about the size of a half dollar. This can be filled from the store-size can. It holds enough dressing to last through the season, and it takes up almost no space.

For your dry-fly oil, go to the 5-and-10 and buy a small bottle of finger nail polish remover. Empty it and fill it with dry-fly oil. The bottle is equipped with a small brush, ideal for applying oil to a fly. Fasten the bottle to your jacket with a buckskin thong and again you have cut down bulk and weight by 75 per cent.

Do the same with your insect repellent. You can carry all you need in a one-ounce bottle and again you cut down bulk and weight.

Metal fly boxes are heavy, even if they are made of aluminum. Plastic boxes are light and usually less bulky. All right—use your metal boxes as stock boxes, to be left in the car, and carry what flies you actually need in the lighter plastic boxes. If you look over your gear with reduction in mind, you will find that you can dispense with a surprising amount of it.

The same is true of bass fishing. My son and I fish the upper reaches of the Delaware River each year for smallmouth bass. This river is wadeable and we use fly rods and bass bugs or streamers. The weather is warm during the bass season and fishing jackets are oppressively hot. Thus, we eliminate jackets completely and condense our terminal tackle into single boxes that are 6″x4″x1¼″. Line dressing and insect repellent are carried in the light wicker creels and landing nets are attached to creel straps by small "french snaps" such as are used on dog leashes. Should the weather be rainy or showery, rain jackets can be rolled into long "ropes" of sorts and tied around our waists, inside the waders. Spare leaders take up little space in the wader pockets. Thus we have with us everything we can possibly need and both bulk and weight are reduced to the absolute minimum.

For boat fishing for bass we follow the same procedure. Instead of carrying with us two out-size tackle boxes, we reduced our gear so that it fits into a tackle box that is 15″x6½″x6¼″. This will hold a suitable assortment of

"GO THROW IT BACK! You know how I hate fish!!"

plugs, bass bugs, streamers, etc., and still leave room for spare reels, pliers, a file, leader material and so on. It takes up only a little space and minimizes the loading and unloading processes. Even with this compact gear I think that we catch as many fish as most folks.

In June, 1951, one of the companies that manufactures outdoor clothing asked me to design for them a practical fishing jacket. We talked it over at length. They wanted an exclusive jacket, something that would be different from other competitive jackets on the market. After considerable conversation, I came up with this idea.

"Too many fishermen," I told them, "carry far too much useless gear. Their jackets are heavy and they bulge to the point of discomfort. Why not show the anglers of the country a fishing jacket that is completely equipped with all the gear that a fisherman actually needs?"

Accordingly, we went ahead with the plan. The front and rear views are shown on page 13. Fly boxes are cut down to three; one large box for large dry flies; a smaller box for small dry flies; and a flat box for wet flies. The lids of these boxes are equipped with lamb's wool pads in which can be carried such things as nymphs, streamers and bucktails. There is a small pocket for the leader case; another to hold the fly-oil bottle and a third to hold the scissors or leader clipper. Inside the left front side is a zipper pocket to hold such things as line dressing, insect repellent, thermometer, a small box for spinners, sinkers, spare hooks, etc.

A creel has been built into the back of the jacket. This is a pouch which has waterproof material next to the angler and plastic net on the outside for ventilation. The creel is attached with a zipper and it can be removed, turned inside-out and washed when desired. The creel hangs below the level of the jacket so that every time the angler wades in deep water the fish are automatically dunked in the stream and thus kept cool and fresh.

Above the creel, across the back, is a broad pocket to hold rain jacket and lunch. The landing net is suspended between the shoulder blades on a rawhide thong and a "french snap." The net can be flipped over the shoulder, ready for instant use when needed. Otherwise the fisherman is not even conscious of wearing it. The entire jacket is designed with one thing in mind—reduction of bulk and weight without loss of efficiency; in short to de-gadgetize the wearer.

And now, if you will excuse me, I must go up to the sporting goods store. They tell me that they have just stocked a new bass plug. It is called the Gadgeteer's Dream and it has ballbearing swivels, red and green turn signals and plays music. We are going bass fishing next week and you can't tell. This might be just what they are waiting for.

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☐ NEW ☐ RENEWAL

THE BATTERED ORENO

(*From Page* 19)

branches. I paused, then started the rewind.

The plug sank underneath the water in slow motion as the retrieve began. I saw it wiggle into the depths and disappear. The vanishing artificial put me into a state of semi-comatose satisfaction and my reveries were rudely interrupted only when my forefinger was bruised by a sharp snagging reverse of the reel.

The strike was savage and quickly brought me to my senses. The rod bent until the tip reached for the water, but I held it above and held the reel fast. Immediately there was a surge from the depths near the brushpile as a soul-satisfying specimen of a bass obnoxiously objected to the plugtrap to which it was fastened.

This was what we had been looking forward to, all morning, and now that a bass was furiously battling on the hook we got the greater pleasure out of the situation because of the previously overlong wait.

"By dingo!" I yelled, "Old man Klee was right. That is the best plug in the world!"

Immediately, I busied myself again with my reel as the bass exploded again, shaking and shivering furiously above the waters, much nearer to the boat. Very shortly thereafter, we landed the gasping piscatorial beauty.

"Well, I'll be darned . . . ," Stan spoke feelingly, "if this doesn't take the cake. You sure it wasn't just a blind pig . . . ?" he questioned.

"We'll certainly see," I answered. "I intend getting a few more." Stan snorted.

A few minutes later another bass hit the same plug and then still another. Here was one day and occasion when the Bass Oreno was really It. Stan, who had none in his tackle box, had no luck with his other choices.

As we got out of the boat later in the day, more and more I became thankful for the argument we had about plugs and plugging, and for what Bill had told me. Since that time, too, I have changed my opinion.

When I saw Bill Klee at the store the Saturday that followed, I told him of my experience and added:

"I bow to your superior knowledge, Will," I said. "Like you were saying, I'll take a red-headed Bass Oreno first, follow it by a yellow scaled river runt, then a gray shad, and for night plugging, a jitterbug. But the Oreno's first—and especially if it's a battered Oreno!"

CONGRESS SCANS THE AVERAGE SPORTSMAN

(*From Page* 11)

benefits. Each letter and request from a sportsmen's group that points up the related values of conservation-restoration programs in addition to fish and wildlife, helps to enhance the respect that thinking lawmakers have for the public service that sportsmen render, not only for themselves but to the public.

In these trying times when some of the best minds of this nation are seeking ways and means to implement and defend freedom of man in the troubled world, the sportsmen who seek to expand conservation-restoration of natural resources are making their patriotism felt. They are gaining more respect and appreciation for the conservation values. While conservation of natural resources of soil, water, land, forest and mineral, the raw materials of our defense and domestic economy, will implement the strength of our nation, the direct by-product to sportsmen from a healthy condition of these resources is better fishing and hunting.

The sportsmen have given the vitality of strength to direct attention to natural resource conservation. They are showing the way to a vehicle to preserve freedom.

Yes, sportsmen have made a deep impression on Washington.

GLAMOUR PUSS

(*From Page* 21)

who can't tell the difference between a rusty tin can and a finely tied dry fly. "What's more," continued our friend, "he'd much prefer the tin can or a gob of Limburger flavored worms to the fly or even a slice of fresh beef. When he continued with, "Now, for instance, take our glamourous fishes—," I halted him cold.

"So, you know some glamourous fish?" I loudly intoned.

""Why, of course," he came back just as loudly, still fired by the zeal of righteous indignation albeit a bit nonplused, "there's trout, bass, 'lunge and even some panfishes," I let him finish.

"Which of those you mentioned have the most sex appeal when staring up at you from the bottom of a boat or from the recesses of your creel?" That stopped him for a second.

"You're nuts," he fired back. "Fish don't have sex appeal."

"'Exactly," we agreed. "But, if you want to go into personalities, the bullhead is the most glamourous of the lot." With that I proceeded to give him a ten-minute dissertation on the fish.

The trouble with my friend was that he didn't know enough about the bullhead. I closed by telling him to go out and learn more about that most excellent fish. The ingrate told me to go roll my hoop. That's gratitude for you.

Once a quartet of fishermen stopped me on the main street of Linesville up at the head of Pymatuning Reservoir to ask needlessly if I would like to see a real big catfish.

When they opened the trunk compartment of their car, there sat a fine twenty-pound silver cat resting easily on a layer of newspapers and cracked ice. The splendid eyes in the intellectually large head stared straight at us. The noble whiskers moved rhythmically with the opening and closing of a mouth not too faintly

"My, Isn't temptation taking some interesting shapes this season?"

reminiscent of one possessed by a Joe E. Brown.

"That's a fine fish," I remarked as I gave the big fellow an admiring pat on the back.

Not to be outdone, the catfish responded with a couple of friendly wags of its forked tail. And a bullhead, mind you, is a cousin (once removed) of the catfish. Glamour? Why, the whole doggone—whoops, catgone family reeks with it.

ARE WADERS DEATH TRAPS?

(*From Page* 15)

a gone goose. The more water that comes in, the better able you are to stand up and walk.

The story then becomes . . . you have no trouble regaining your feet or walking in full waders. Keep your head! Take it easy! Get on your feet and come out slowly. Your waders will not feel too heavy and they will actually help you until you hit the shore. That's when they really get heavy but the ball game's in the bag by that time.

For proof of the pudding see the photographs with this article. For the doubters, we have a little coin of the realm that says that kid can get out of any trout stream in Pennsylvania, anywhere and any time while wearing waders.

Refresher School for State Wardens Held at Bellefonte

The Annual Refresher School for the Pennsylvania Fish Wardens under the supervision of W. W. Britton, Chief Enforcement Officer was conducted at the Spring Creek Project in Centre County from October 1 through October 3. The program was devoted to analysis and a general and mutual understanding of the Pennsylvania Fish Laws, judicial procedure, public relations, clean stream co-operation, together with an expanded insight and understanding of the problems involved in the production of fish by the Commission which in turn of course are placed in the streams and lakes and ponds of the Commonwealth.

The School proceeded to be a very worthwhile project and the round table discussions of the important problems which arise in various districts of the state provided a wealth of information to the entire field force.

Among the numerous and rather humorous episodes attending a conclave of this nature was the loss of one of the warden's old-fashioned night gowns. It seems that the ruffled night gown worn by Warden Horace Pyle of Coatesville was lost in the shuffle when one of the housemaids at the Penn-Belle Hotel evidently got it mixed up with the bed clothing. Another happening which brought many smiles was the experience of Warden "Baldy" Wilcox of Wyalusing. Much like England's Chamberlain, "Baldy" too missed the bus and was obliged to return to the Project from the Benner Spring, a distance of 5 miles, on foot. The experience did however lend itself to just what is meant by warden patrol work and the boys were quite pleased to know that Warden Wilcox had the definition of patrol indelibly impressed upon his mind. As in the case of general state-wide meetings held by enforcement officers, two of the Fish Wardens were fined for traffic violations in the Borough of Bellefonte.

The following is a copy of the program conducted by the school.

MONDAY—OCTOBER 1

9:00 A. M. to 9:30 A. M.	Roll Call and Introduction of Honored Guests and New Wardens
9:30 A. M. to 10:30 A. M.	Review of Legal Procedure
10:30 A. M. to 10:45 A. M.	Recess
10:45 A. M. to 12:00 Noon	Technical Case Reports
1:30 P. M. to 3:00 P. M.	Review of Fish Code and Changes
3:00 P. M. to 3:15 P. M.	Recess
3:15 P. M. to 5:00 P. M.	Note Taking and Preservation of Evidence

TUESDAY—OCTOBER 2

9:00 A. M. to 9:30 A. M.	Lecture—J. Allen Barrett, Director, Division of Public Relations
9:30 A. M. to 10:30 A. M.	Lecture—C. R. Buller, Chief Fish Culturist
10:30 A. M. to 10:45 A. M.	Recess
10:45 A. M. to 11:00 A. M.	Lake Problems. Supervisor Sheldon
11:00 A. M. to 11:15 A. M.	Motor Boat Problems. Supervisor Jones
11:15 A. M. to 11:30 A. M.	Trout Country Problems. Supervisor Bidelspacher
11:30 A. M. to 11:45 A. M.	How to Do Good Work. Supervisor Ogden
11:45 A. M. to 12:00 Noon	Special Fish Wardens. Supervisor Shearer
1:30 P. M. to 1:45 P. M.	Co-operation with other Departments. Supervisor Corbin
1:45 P. M. to 3:00 P. M.	Lecture—J. Albert Lehrman, Deputy Attorney General
3:00 P. M. to 3:15 P. M.	Recess
3:15 P. M. to 3:45 P. M.	Talk. Agent Penna. Game Commission
3:45 P. M. to 4:15 P. M.	Talk. Agent U. S. Fish & Wildlife Service
4:15 P. M. to 5:00 P. M.	Talk. Agent Sanitary Water Board

WEDNESDAY—OCTOBER 3

9:00 A. M. to 9:30 A. M.	Lecture—Gordon Trembley
9:30 A. M. to 10:00 A. M.	Address—Hon. C. A. French, Executive Director
10:00 A. M. to 10:30 A. M.	Address—H. R. Stackhouse, Administrative Secretary
10:30 A. M. to 10:45 A. M.	Recess
10:45 A. M. to 12:00 Noon	Stopping and Searching Cars. Penna. State Police
1:30 P. M. to 2:00 P. M.	Straying from Administrative Procedure
2:00 P. M. to 3:00 P. M.	Discussion of Warden Problems in General
3:00 P. M. to 3:15 P. M.	Recess
3:15 P. M. to 5:00 P. M.	Final Instructions and Miscellany

WHAT'S NEW IN FISHING BOOKS

By Hugh Johnson

"Many fishing experts recommend a spoon for lake trout. Personally I prefer a fork, and if none is available I eat it with my fingers."

After you pick yourself out of the aisle and sit in your chair again, I'll tell you that the foregoing is from Ed Zern's new book (*How to Catch Fishermen,* Appleton-Century-Crofts, New York. $2.50). When I first read the above *bon mot* I stayed right in my chair. Fact is, I didn't even move a muscle except those in my right arm as I placed the unread Zern on the table and picked up Maurice Walsh's *Trouble in the Glen.* But the next night when I went at Zern again and read the following:

"Rainbow trout that migrate into salt water are called 'steelheads' on their return to fresh water. Walleyed pike which migrate into salt water are called 'walleyed pike'."

. . . I practically busted a gasket laughing and dove head-first into the book, chuckling and giggling and guffawing until my wife threatened to turn the hose on me unless I stopped. The only way I could stop was to stop reading *How to Catch Fishermen.* A couple of nights later when I read some of the book I fell asleep over it!

Well, it all goes to show how ridiculous it is to try to say that this book by Zern is good and that one is not, or this paragraph by Zern is a killer and that one is a turkey. Appreciation of any humor and *particularly* of the Zern variety is such a subjective proposition, so dependent on the mood of the reader at the time, the condition of his liver, what kind of a dinner he had, and just how seriously he takes himself at the moment, that it is hazardous and usually plain foolish to try to "review" a Zern book in the usual sense of the word.

Let's put it this way. *How to Catch Fishermen* comes closer to the fine, careless rapture of his first book, *To Hell With Fishing* (the one with the Webster cartoons), than anything else that he has done—in my opinion. *To Hell With Hunting* and *How to Tell Fish From Fishermen* were funny but I thought that some of the stuff in those books fairly squeaked at you as Zern strained himself to be funny. And in both books there were some out-and-out "saggers"—stories that were so tired they just flopped down on the page and stayed there. But I didn't find a single "sagger" in *How to Catch Fishermen*—not a single piece that didn't come up and dance a little at one reading or another. What is more important, there is a free-wheeling naturalness to this book as if each piece and each story in it had just bounced out of Zern's waggish mind and settled into place on the pages—without being stretched or worked over at all.

There are 63 pieces in the book, with a zany Zern drawing on about every other page. Of the 63 I got frame-wracking belly-laughs out of at least a dozen, and laughed so long and hard over his "butter" yarn—"Trueblood is Thicker than Butter"—that my stomach actually ached. The others range from ordinary laughs through chuckles to smiles and thin out to no more than six that are a little flat. On that record, I'll get out on the limb right now and say that you *can't* go wrong on this book—for yourself or to give as a gift—unless you have decided that *nothing* is funny any more in this dark age of pilot-less aircraft squadrons.

When *To Hell With Hunting* was published, Ed Zern autographed a copy of the book for me at a Philadelphia book dinner. He wrote: "For Hugh Johnson who deserves a better book." After reading the book I agreed with him. Well, I figure he's made it right with *How to Catch Fishermen.* It is a better book!

A NEW LURE IS BORN

(*From Page* 22)

decided to do something about it. That something turned out to be this lure with an original design that was catching fish.

"Well," he said. "Most lures have the conventional metal lip which provides the wobble action, others utilize a spinner at the front and back without a metal lip, and since we have used both kinds and without results, I decided to combine these features into one lure."

The most interesting characteristic of this lure is its design. The body is of dirigible shape, with the center portion cut-away on each side. These cut away portions are bridged by fixed shafts on which free running propeller type spinners rotate as the lure is retrieved. The metal lip provides the wobble action, and the spinners mounted on each side augment this action by simulating moving fins with an attractive gurgling sound.

This original model was crude when compared to the highly finished lures reposing in our tackle boxes. The metal lip and the small propeller type spinners, were made of salvaged aluminum strip. Painted with 5 and 10c store paint it was taking fish when other lures were taking up space.

I asked Frank how long he had the lure, since I didn't recall seeing it before. He told me he had just finished the lure a few days before he suggested this trip. Skeptical of it and ashamed of its crudeness he said nothing about it, but waited until I was dozing before venturing to use it. He admitted as much surprise over the results as I.

We continued fishing after lunch was over and Frank took two more bass larger than the first three. This made a total of five bronzebacked beauties that weighed from 3 to 5 lbs. on a home-made, and as yet unnamed lure.

I finally hooked a couple of scrappy bass on my favorite lure when we decided to call it a day. On the way back to the boathouse I told Frank that he'd have to call the lure something and we had a lot of fun trying to select a name. Finally, Frank said "The scrap put up by the second bass suggested a real fighter and so "OLD FIGHTER" was the name he liked. To which I added "The lure with the sensational spin-fin action." There it was, the lure, the name, and the slogan. All in fun I dunked the lure and christened it in the very waters where it had undergone its baptism of fire.

Thus it was that OLD FIGHTER was introduced into the sport of fishing. A lot has happened since that eventful day. The lure was improved in appearance, it was tried under all types of fishing conditions here and abroad. There were and are times when it would not catch fish. However, it proved over a period of years to be a consistent fish taker. Especially so when the other lures failed to produce.

Finally after several years of experimenting Frank was convinced the lure had real spirit He applied for a patent and set about organizing a staff for the manufacture of OLD FIGHTER.

The new lures are molded of the best tenite plastic, and out of a large number of colors, seven were selected as the most consistent . . . red and white, frog, yellow with silver scales and red blush on rear portion, blue shad with silver scales, black bass scale effect, rainbow, and gold shiner. This is the story of the birth of OLD FIGHTER, a deep-running lure that has the fish striking and the fishermen talking. Its creation stemmed from the necessity for something better, and I'm proud of the small part I played in its birth and debut. It is a Pennsylvania product and manufactured by a Pennsylvania sportsman.

Once there was a man who always called a spade a spade, until he fell over one he had left on the cellar steps.

A farmer put up this sign at the entrance to his pasture: Hunters, please don't shoot anything on my place that isn't moving. It might be my new hired man.

VIEWPOINT
(A Fable)

Well, sir, you never know what you'll run into these days. Take last night. This guy from the conservation department came up to see me. Wanted to talk about my timber cutting, down south aways. I was glad to see him. I like to talk to those conservation boys; think they're doing good work. We got to have conservation. Some of 'em got queer notions, though.

Like this guy. I like to do right by these boys, so I took him out to dinner, best place in town. A little high, maybe —but what isn't, these days? Anyway, I can afford it!

We had a real dinner and set around and talked awhile. I told him how I was making out with the mill. I got a good crew; they really turn out the lumber. I don't tell everybody how good I'm doing. Nobody's business, and I pay enough income tax as it is. But you can trust these boys not to go blabbin' around.

He just nods when I tell him how much I cut and how much it makes me.

"You're cutting just mature stuff, of course," he says. "Sound trees, 14 inches and better?"

I looks at him, surprised. Then I figure he's joking.

"With lumber the price it is?" I says, laffin'. "You know better'n that! I got a good crew. I tell 'em to take anything that'll make a 2 x 4, and they do it. You ought to see a patch of timber after they work it over—clean as my back yard!"

I hands him a Corona, but he lights a pipe.

"You're surely seeding trees back then," he says, kind of low. "Maybe planting nursery stock?"

This ain't quite funny any more, so I answer him serious. Not rough, you know, but firm—like you got to treat these conservation boys once in a while. Good boys, but too serious, always wanting a man to put back as much as he takes. Where would a man get doing that? They're good boys; just don't know business. So I answers him kind, but firm.

"My business is making trees into lumber," I says, "not making trees. Now, planting trees—that's you boys' job. That's why I pay taxes, and buy a huntin' license every year. So you boys can plant trees and such." I figured I'd better remind him where he stood, but I smiled to show there's no hard feelings.

Usually he smiles back, but this time he don't. This time he does a thing that puzzles me yet. He reaches over by my plate, scrapes up a little pile of crumbs that's dropped from the bread I'd eat. Then he stands up, points to that pile of crumbs.

"Take these crumbs that's left from the bread you ate," he says. "Give them to the baker and tell him to make you a new loaf of bread from them."

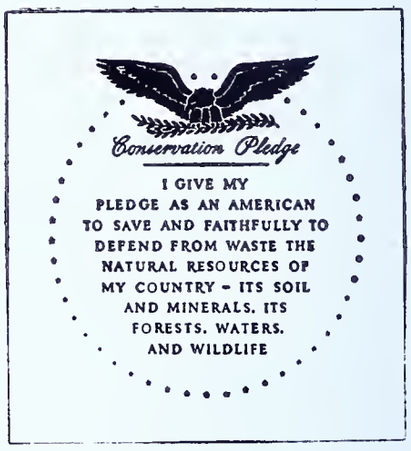
I can't figure what bit him or what he was driving at. Anybody knows you can't eat a loaf of bread, toss the crumbs to the baker and expect him to give you a new loaf for 'em. Bread ain't made from leavin's. You got to take flour, lard, and—well, other things.

He's a good boy, this conservation feller, but there's times I can't figure out what he's talkin' about. How you going to make bread from crumbs?

It don't make sense.

These boys just don't understand business.

—W. O. NAGEL
in the *Missouri Conservationist*



Pennsylvania Fish Law Violations

Cases Settled During the Month of September 1951

ALLEGHENY COUNTY

Anderson, Wesley W., 102 S. Fremont Ave., Pittsburgh, Pa. Exceeding creel limit $10.00
Bedell, Arthur O., 2713 Melburn St., McKeesport, Pa. Illegal device 20.00
Blazer, Louis M., 200—9th St., Braddock, Pa. Failure to display license plates 5.00
Blazer, Louis M., 200—9th St., Braddock, Pa. Exceeding creel limit 10.00
Bost, Oliver J., 221 Riverview Blvd., Whitaker, Pa. Failure to display license plates 5.00
Burkarth, Charles A., 3109 East St., Pittsburgh, Pa. Illegal operation of motorboat 10.00
Edwards, Elmer, 501 Worthington Ave., McKeesport, Pa. Illegal operation of motorboat 10.00
Frye, James E., Jr., 1512 Mansion Place, Swissvale, Pa. Fishing without a license 25.00
Gass, Clifford I., R. D. No. 3, Ross Ave., Pitsburgh, Pa. Fishing without a license 25.00
Geyer, Arthur R., 225 Wallace Ave., E. Pittsburgh, Pa. Illegal operation of motorboat 10.00
Gibbons, Samuel, 214 Central Ave., Blawnox, Pa. Failure to display license plates 5.00
Griffin, James W., 1564 E. Pittsburgh, Pa. Exceeding creel limit 10.00
Hootin, James, 119 Hamilton Ave., Whitaker, Homestead, Pa. One undersized bass 10.00
Houck, Alvin, 2301 Patterson Ave., Pittsburgh, Pa. Exceeding creel limit 20.00
Jacobs, Seaborn, Box 378, Pitcairn, Pa. Violation of the rules and regulations 20.00
Kelly, Clair, 245 W. 7th Ave., Tarentum, Pa. Illegal operation of motorboat 10.00
Lacks, Steve, 94 S. 15th St., Pittsburgh, Pa. Illegal device 20.00
Linkhauer, Charles T., 2719 Cleveland St., McKeesport, Pa. Exceeding creel limit 40.00
Linkhauer, Elmer P., 233 Peter St., Duquesne, Pa. Exceeding creel limit 40.00
Miller, Mrs. Frank, 75 Lafferty Ave., Pittsburgh, Pa. Operating a motorboat without a license 10.00
Miller, Joseph, 2112 Carey Way, Pittsburgh, Pa. Reckless operation of motorboat 25.00
Mosely, Ronald, 126 Sycamore St., Mt. Washington, Pittsburgh, Pa. Illegal operation of motorboat 10.00
Pearson, Dr. E. W., 505 N. State St., Clairton, Pa. Operating a motorboat without a license 10.00
Polis, Robert, 435 Atwood St., Pittsburgh, Pa. Reckless operation of motorboat 5.00
Reisch, R. M., 700 Mayville Ave., Pittsburgh, Pa. Motorboat not registered 10.00
Sampson, Clyde, 904 Main St., Pittsburgh, Pa. Operating a motorboat without a license 10.00
Schoor, Ambrose G., 1719 Texas Ave., Duquesne, Pa. Exceeding creel limit 40.00
Schorr, Jacob F., 1022 Kennedy Ave., Duquesne, Pa. Exceeding creel limit 40.00
Schultz, Edwin A., 126 Jacks Run, Pittsburgh, Pa. Illegal operation of motorboat 10.00
Sennick, John, 131 Freeman Alley, McKeseport, Pa. Operating a motorboat without a license 10.00
Swick, Stanley, 3210 Polson St., Pittsburgh, Pa. Operating a motorboat without displaying license plates .. 10.00
Vansag, Carl J., 836 Parkwood Rd., Pittsburgh, Pa. Fishing without a license 25.00
Ward, Herbert C., 1403 Maple St., McKeesport, Pa. Illegal operation of motorboat 10.00
Weimer, Ray M., 7508 Dickson St., Pittsburgh, Pa. One undersized bass 10.00
White, Dr. Howard E., 1575 Vermont Ave., McKeesport, Pa. Operating a motorboat without a license 10.00
Williams, Mattie, 612½ Watt St., Pittsburgh, Pa. Two undersized bass 20.00

ARMSTRONG COUNTY

John, Hollis R., Adrian, Pa. Illegal operation of motorboat 10.00
Mango, Tony, 165 Columbia Ave., Vandergrift, Pa. Five undersized bass 50.00
Miller, Byron W., R. D. No. 2, Leechburg, Pa. Failure to display license plates 10.00
Montgomery, Albert, Mahoning, Pa. Operating a motorboat without a license 10.00

Spanial, John L., 141 Franklin Ave., Vandergrift, Pa. Exceeding creel limit 10.00
Stull, Roy D., R. D. No. 3, Kittanning, Pa. Illegal operation of motorboat.. 10.00

BEAVER COUNTY

Balzer, John H., 3410 5th Ave., Beaver Falls, Pa. Failure to display license plates 5.00
Dugan, Robert B., L Iden Way, Rochester, Pa. Illegal operation of motorboat 10.00
Ford, Francis, Box 123 South Heights, Pa. Loaning a fishing license 25.00
Gaeesa, Merk, 1808 S. 5th St., New Brighton, Pa. Illegal operation of motorboat 10.00
Olsson, John B., Dutch Ridge Rd., Beaver, Pa. Illegal operation of motorboat 10.00
Rossa, Wm., 101B 15th Ave., Beaver Falls, Pa. Failure to display license plates 5.00

BERKS COUNTY

Craley, John H., 2340 Spring St., West Lawn, Pa. Failure to display license plates 5.00
Francis, Charles A., 292 River Rd., Birdsboro, Pa. Illegal device 20.00
Garbini, Anthony, 437 S. 5th St., Reading Pa. Illegal device 20.00
Parr, Lee H., 149 W. Buttonwood St., Reading, Pa. Exceeding creel limit 10.00
Ross, Dorothy, 145 N. Front St., Reading, Pa. Fishing without a license 25.00
Strause, Walter, 1442 Frush Valley Rd., Laureldale, Pa. Exceeding creel limit 30.00

BLAIR COUNTY

Bolger, Herbert S., 510 Belle View St., Altoona, Pa. Failure to display license plates 5.00
Fasick, Joseph, 313 9th Ave., Altoona, Pa. Fishing with a stolen license .. 25.00
Forsht, Lewis, 2913 7th Ave., Altoona, Pa. Loaning a fishing license 25.00
Himes, Vincent, 1208 Maple Ave., Hollidaysburg, Pa. Reckless operation of motorboat 25.00
Hyle, A. L., 307 10th Ave., Altoona, Pa. One undersized bass 10.00
Kelley, Charles A., 120 E. Walnut Ave., Altoona, Pa. Failure to display license plates 5.00
Launi, Arthur, 210 Logan Blvd., Altoona, Pa. Exceeding creel limit ... 10.00
Metz, Lewis F., R. D. No. 1, Box 200A, Hollidaysburg, Pa. Failure to display license plates 5.00
Palmer, Wm., 130 Chestnut Ave., Altoona, Pa. Reckless operation of motorboat 20.00
Sisler, David D., 2422 7th Ave., Altoona, Pa. One undersized bass ... 10.00
Suter, Robert D., 320 Front St., Hollidaysburg, Pa. Operating a motorboat without a license 25.00
Suter, Robert D., 320 Front St., Hollidaysburg, Pa. Reckless operation of motorboat 25.00
Turnbaugh, Charles E., 5911 California Ave., Altoona, Pa. Illegal device 25.00

BRADFORD COUNTY

Benjamin, Floyd, Towanda, Pa. Illegal sale of fish 30.00
Cranmer, Gerald, Powell, Pa. Exceeding creel limit 100.00
Cranmer, Jack, Powell, Pa. Exceeding creel limit 100.00
Stevens, James, R. D. No. 6, Towanda, Pa. Illegal sale of fish 50.00

BUTLER COUNTY

Bricker, Kenneth, R. F. D. No. 1, Sarver, Pa. Illegal operation of motorboat 10.00
Henning, Charles H., 519 E. Brady St., Butler, Pa. Operating a motorboat without a license 10.00
Michel, Joseph L., Box 148, Cabot, Pa. Exceeding creel limit 30.00

CAMBRIA COUNTY

Bannan, Mrs. Glenn, 232 Ashcroft Ave., Cresson, Pa. Fishing without a license 25.00
Cavatoni, Tullio, Box 549, Colver, Pa. One undersized bass 10.00
Chervenic, John, Box 208, Colver, Pa. One undersized bass 10.00
Erdley, James W., Colver, Pa. Exceeding creel limit 10.00
Franik, Leonard, Box 167, Ramey, Pa. Exceeding creel limit 10.00
King, Francis, 69—G St., Johnstown, Pa. Operating a motorboat without a license 20.00
Lehman, Alton, Saint Michael, Pa. Fishing without a license 25.00
Mauk, John, 110—1st St., Johnstown, Pa. Exceeding creel limit 10.00
Raymond, Charles, Colver, Pa. Exceeding creel limit 10.00
Stibich, Joseph W., 119 Leslie St., Johnstown, Pa. Exceeding creel limit 10.00
Weakland, Joseph, 706—7th St., Colver, Pa. Exceeding creel limit 10.00

CARBON COUNTY

Chamak, Michael, 12 E. Mill St., Nesquehoning, Pa. Violation of the rules and regulations 20.00
Velitsky, John, R. D. No. 2, Lehighton, Pa. Violation of the rules and regulations 20.00

CENTRE COUNTY

Fletcher, V. W., 125 W. Beaver Ave., State College, Pa. Two undersized bass 20.00
Getter, Claude A., Sr., Philipsburg, Pa. Violation of the rules and regulations 20.00
Hoffman, G. Fredrick, Philipsburg, Pa. Violation of the rules and regulations 20.00
Miller, Newell O., Spring Mills, Pa. Violation of the rules and regulations 20.00
Sills, Frank, 701 W. College Ave., State College, Pa. Three undersized bass 30.00
Spicer, T. S., State College, Pa. Violation of the rules and regulations .. 20.00

CHESTER COUNTY

Babel, Harry, 1053 Rock Run, R. D. No. 2, Coatesville, Pa. Operating a motorboat without a license 5.00
Sugarman, Mark, Coatesville, Pa. Draining dam without permit 100.00
Wourel, Thomas, Kennett Square, Pa. Operating a motorboat without a license 5.00

CLARION COUNTY

Hagen, Richard F., West Monterey, Pa. Operating a motorboat without a license 10.00
Young, Donald E., West Monterey, Pa. Operating a motorboat without a license 10.00

CLEARFIELD COUNTY

Burnosky, John W., Ginter, Pa. Violation of the rules and regulations .. 20.00
Campbell, D. K., Mahaffey, Pa. Violation of the rules and regulations .. 20.00
Doran, Wilmer, Madera, Pa. Violation of the rules and regulations 20.00
Ogden, A. L., R. D. No. 2, Clearfield, Pa. Three undersized bass 30.00
Westover, Jerry, Westover, Pa. Violation of the rules and regulations .. 20.00

COLUMBIA COUNTY

Bogart, Alfred, R. D. No. 4, Bloomsburg, Pa. Fishing without a license 25.00
Rorick, James, 144 N. 2nd St., Catawissa, Pa. One undersized bass 10.00
Shaffer, Boyd, Glen Heights, Bloomsburg, Pa. Three undersized bass .. 30.00

CRAWFORD COUNTY

Henry, Merle D., 268½ Pine St., Meadville, Pa. Illegal operation of motorboat 10.00

CUMBERLAND COUNTY

Marshall, Donald B., 510 N. 2nd St., Wormleysburg, Pa. Failure to display license plates 10.00

DAUPHIN COUNTY

Blogar, Marcella J., Bressler, Pa. Violation of the rules and regulations 20.00
Erti, Frank, 518 N. 2nd St., Harrisburg, Pa. Failure to display license plates 10.00
Haike, Urban, Harrisburg, Pa. Violation of the rules and regulations .. 20.00
Martin, W. Donald, Harrisburg, Pa. Violation of the rules and regulations 20.00
Murphy, Olive L., Harrisburg, Pa. Fishing in a closed stream 20.00
Quirk, Edward J., Middletown, Pa. Violation of the rules and regulations 20.00
Rhine, Hazel, Penbrook, Pa. Reckless operation of motorboat 25.00
Snoddy, Lou E., 549 Cumberland St., Harrisburg, Pa. One undersized bass 10.00

DELAWARE COUNTY

Savoy, Louis, 1674 Ward St., Linwood, Pa. Failure to display license plates 10.00

ELK COUNTY

Clopp, Edward, Wilcox, Pa. Failure to display license plates 10.00

ERIE COUNTY

Billings, Arvin L., Box 368, North East, Pa. Illegal device 25.00
Billings, Arvin L., Box 368, North East, Pa. Violation of the rules and regulations and one undersized bass 30.00
Orton, Maurice, R. D. No. 2, North East, Pa. Exceeding creel limit 20.00

FAYETTE COUNTY

Croel, Nero, Box 33, Fairbanks, Pa. Reckless operation of motorboat .. 25.00
Kolosky, Paul, R. D. No. 3, Uniontown, Pa. Illegal operation of motorboat 10.00
McCary, John W., Box 23, South Connellsville, Pa. Failure to display license plates 10.00

FOREST COUNTY

Reneker, Walter L., Tionesta, Pa. Exceeding creel limit 10.00

FRANKLIN COUNTY

Baker, Ernest, 324 Lincoln Way West, Chambersburg, Pa. Failure to display license plates 25.00
Gipe, Bruce L., Willow Hill, Pa. One undersized bass 10.00
Gipe, Bruce, Willow Hill, Pa. Exceeding creel limit 10.00
Umbrell, Ray A., Willow Hill, Pa. Exceeding creel limit 10.00

HUNTINGDON COUNTY

Smyers, Lloyd L., Mt. Union, Pa. Violation of the rules and regulations 20.00
Varner, Samuel G., R. D. No. 1, Mt. Union, Pa. Fishing without a license 25.00

INDIANA COUNTY

Buterbaugh, Clyde, Cherry Tree, Pa. Failure to display license plates .. 5.00
Minto, Charles, 316 School St., Indiana, Pa. Failure to display license plates 5.00
Schreecongost, David P., 395 N. 5th St., Indiana, Pa. Exceeding creel limit.. 20.00
States, Malcolm, R. D. No. 1, Rossiter, Pa. One trout in closed season .. 10.00

JUNIATA COUNTY

Kennedy, Wm. A., Port Royal, Pa. One undersized bass 10.00

LACKAWANNA COUNTY

Ahlbrandt, Walter, Sr., 43 Maccey Court, Ashley, Pa. Illegal device .. 20.00
Guide, Martin, R. D. No. 2, Box 410, Avoca, Pa. One undersized bass .. 10.00
Krenitsky, Metro, R. D. No. 1, Clarks Summit, Pa. Fishing without a license 25.00
Malinosky, Anthony, 315 Oak St., Old Forge, Pa. One undersized bass ... 10.00
Myrick, Carl, 144 E. Pine St., Dunmore, Pa. Fishing without a license 25.00
Sukiis, Edward, 1722 Clearview St., Scranton, Pa. Failure to display license plates 10.00
Tross, Ernest F., 616 S. Irving Ave., Scranton, Pa. Fishing without a license 25.00

LANCASTER COUNTY

Alexander, Lloyd, 202 Harrisburg Ave., Lancaster, Pa. Illegal use of net .. 100.00
Enck, Chester, S. Pitt St., Manheim, Pa. Illegal device 20.00
Fordney, Wm., 603 Marietta Ave., Lancaster, Pa. One undersized trout 10.00
Fordney, Wm., 603 Marietta Ave., Lancaster, Pa. One trout in closed season 10.00
Simpson, Wm., Charlette St., Manheim, Pa. Exceeding creel limit 20.00
Weaver, Amos, R. D. No. 1, Stevens, Pa. Unlawful obstruction of migration of fish 100.00

LAWRENCE COUNTY

Cwynar, Frank A., 13 Chester St., New Castle, Pa. Illegal operation of motorboat 10.00
Groce, Harry, 1408 Wilmington Ave., New Castle, Pa. Reckless operation of motorboat 20.00
Kleckner, Stephen J., 112 S. Vine St., New Castle, Pa. Illegal device 20.00

LEBANON COUNTY

Lehman, Mrs. Clara, Lebanon, Pa. Fishing without a license 25.00

LEHIGH COUNTY

Hall, Mrs. Monroe, Trexlers, Pa. Fishing without a license 25.00

LUZERNE COUNTY

Bankus, Stephen, 7 Ketchum St., Wilkes-Barre, Pa. One undersized bass 10.00
Burleson, Allen, Jr., 230 Franklin St., W. Pittston, Pa. One undersized bass 10.00
Cheskiewicz, Michael, 2 N. Walnut St., Wilkes-Barre, Pa. One undersized bass 10.00

Collora, Matthew, 125 W. Pettebone Ave., Forty Fort, Pa. Illegal device.. 20.00
Dobosh, Walter, 30 Moyallen St., Wilkes-Barre, Pa. One undersized bass 10.00
Gross, John J., 222 S. Woodward St., Hazleton, Pa. Violation of the rules and regulations 20.00
Gushanas, John, 339 Union St., Luzerne, Pa. Exeeding creel limit ... 10.00
Herbert, Thomas, 77 Madison St., Wilkes-Barre, Pa. Operating a motorboat without a license 5.00
Karney, Adam, R. D. No. 3, Dallas, Pa. Exceeding creel limit 10.00
Long, Joseph W., 47 N. Grand St., Wilkes-Barre, Pa. One undersized pickerel 10.00
Mihalick, George, 124 E. Main St., Plymouth, Pa. One undersized bass 10.00
Miloski, Adam, 393 S. Empire St., Wilkes-Barre, Pa. One undersized bass 10.00
Monacelli, Prima, 130 Broadhead St., Duryea, Pa. One undersized bass .. 10.00
Muskas, Edmund A., Nuangola, Pa. Failure to display license plates .. 10.00
Nacito, Frank, 32 Tedrick St., Pittston, Pa. Two undersized bass 20.00
Orlando, Frank, 421 Holden St., West Wyoming, Pa. Exceeding creel limit 10.00
Roberto, Alex, 201 Battle Ave., Exeter, Pa. Exceeding creel limit 10.00
Rogella, John, 126 Lackawanna Ave., Duryea, Pa. Three undersized bass 30.00
Rogers, Bernard P., 49 Green St., Edwardsville, Pa. One undersized bass 10.00
Roskowski, Joseph, 490 Beaumont St., Warrior Run, Pa. Exceeding creel limit 10.00
Schwabelard, J. Edward, 421 W. Green St., W. Hazleton, Pa. One undersized bass 10.00
Sippel, Leland H., 20 Mt. Airy Rd., Shavertown, Pa. Exceeding creel limit 20.00
Stahurski, John W., 4 Lewis Lane, Wilkes-Barre, Pa. One undersized bass 10.00
Tracey, Frank, 109 Church St., Pittston, Pa. One undersized bass 10.00
Williams, Rasser J., 50 Slope St., Nanticoke, Pa. Illegal device 20.00

LYCOMING COUNTY

Britt, John F., 665 Center St., Williamsport, Pa. One undersized bass 10.00
Kohler, Clark B., 102 N. Market St., Muncy, Pa. Exceeding creel limit .. 50.00
Schlegal, Betty, 16 S. Main St., Muncy, Pa. Exceeding creel limit .. 50.00
Schlegal, Charles K., 16 S. Main St., Muncy, Pa. Exceeding creel limit .. 50.00
Thornton, Clarence, 136 Maple St., Jersey Shore, Pa. Failure to display license plates 5.00

McKEAN COUNTY

Collier, David, 224 Chestnut St., Port Allegany, Pa. Fishing without a license 25.00
Felton, Wm. G., Box 19, Dallas City, Pa. One trout in closed season .. 10.00

MERCER COUNTY

Sizer, Carl, 1256 Partridge Place, Sharon, Pa. Failure to display license plates 5.00
Wilson, Thomas, R. D. No. 2, Sharon, Pa. Operating a motorboat without a license 10.00

MONROE COUNTY

Rice, Joseph, Tobyhanna, Pa. Failure to display license plates 5.00

MONTGOMERY COUNTY

Broadus, Robert, Jacob St., Mont Clare, Pa. Fishing without a license 25.00
Kennedy, John M., Plymouth Meeting, Pa. Operating a motorboat without a license 10.00
Leopold, Harry, Limerick, Pa. Illegal operation of motorboat 5.00
Swingle, Stanley, 541 E. Race St., Stowe, Pa. Illegal device 20.00

NORTHAMPTON COUNTY

Beiler, Charles, Robinson Ave., Pen Argyle, Pa. Operating a motorboat without a license 10.00
Hannon, Kermit T., 339 Hanover St., Bethlehem, Pa. Illegal operation of motorboat 5.00
Kiss, Mike, 2100 Easton Ave., Bethlehem, Pa. Illegal operation of motorboat 5.00
Turnaurer, Sidney, 525—14th Ave., Bethlehem, Pa. Reckless operation of motorboat 15.00

NORTHUMBERLAND COUNTY

Colombert, Anthony, 949 Agusta Ave., Sunbury, Pa. Failure to display license plates 5.00
Klinger, Danial, R. D. No. 1, Milton, Pa. Failure to display license plates 15.00
Kunkle, Isiac, 228 N. 6th St., Sunbury, Pa. One undersized bass 10.00
Wasilewski, Joseph, 1104 Poplar St., Kulpmont, Pa. One undersized bass 10.00
Werner, Charles, 110—8th St., Watsontown, Pa. Two undersized bass.. 20.00

PERRY COUNTY

Freet, Charles, New Buffalo, Pa. Unattended lines 20.00

PHILADELPHIA COUNTY

Brown, Marshall S., 5147 Keyser St., Philadelphia, Pa. Operating a motorboat without a license 10.00
Harm, Wm., 5421 Sylvester St., Philadelphia, Pa. Operating a motorboat without a license 10.00
Henon, Faye, 5054 Homestead St., Philadelphia, Pa. Fishing without a license 25.00
Henon, Thomas, 5054 Homestead St., Philadelphia, Pa. Fishing on a borrowed license 25.00
Hine, Ervin W., 5000 Winston Rd., Philadelphia, Pa. Operating a motorboat without a license 25.00
Impulevicius, Anthony, 607 Wharton St., Philadelphia, Pa. Unnaturalized alien fishing 20.00
Kelly, Catherine, 5709 Thomas Ave., Philadelphia, Pa. Fishing without a license 25.00
Misauskas, Zegmun, 322 Manton St., Philadelphia, Pa. Unnaturalized alien fishing 20.00
Rannaush, Joseph, 415 Dudley St. Philadelphia, Pa. Unnaturalized alien fishing 20.00
Rowland, Robert, 630 Clivedon St., Philadelphia, Pa. Illegal operation of motorboat 5.00
Sharp, Frank, Jr., 2055 N. John St., Philadelphia, Pa. Fishing without a license 25.00
Unger, Wm. H., Drexel Hill, Pa. Failure to display license plates 5.00

PIKE COUNTY

Benci, Joseph, R. D., Greentown, Pa. Illegal operation of motorboat .. 10.00
Benci, Joseph, R. D., Greentown, Pa. Failure to keep light on boats in waters of Lake Wallenpaupack ... 10.00

SCHUYLKILL COUNTY

Hummel, Allan G., 425 Adams St., Pottsville, Pa. Exceeding creel limit 30.00
Oster, Wm., 300½ Spruce St., Tamaqua, Pa. Violation of the rules and regulations 20.00
Romberger, R. C., Tower City, Pa. Violation of the rules and regulations 20.00
Rottet, Thomas C., 117 S. Greenwood St., Tamaqua, Pa. Failure to display license plates 10.00
Wickowsky, Stanley, 339 W. Coal St., Shenandoah, Pa. Operating a motorboat without a license 10.00
York, Harry D., 246 E. Broad St., Tamaqua, Pa. Failure to display license plates 10.00

SNYDER COUNTY

Bland, Loyd W., 245 W. Market St., Middleburg, Pa. Fishing wtihout a license 25.00
Romig, Herman, Selinsgrove, Pa. Operating motorboat without a license 10.00
Wilt, Samuel D., 305 E. Pine St., Selinsgrove, Pa. Operating a motorboat without a license 5.00

SUSQUEHANNA COUNTY

Cook, Clair, R. D. No. 5, Susquehanna, Pa. Failure to display license plates 5.00
Mowrey, Paul, R. D. No. 2, Meshoppen, Pa. Fishing without a license 25.00

TIOGA COUNTY

Tillinghast, Thomas, Nelson, Pa. Fishing without a license 25.00
Uber, John W., R. D. No. 1, Morris, Pa. One undersized bass 10.00

WARREN COUNTY

Beggs, Dorthy, 206 W. Main St., Youngsville, Pa. Fishing without a license 25.00

WASHINGTON COUNTY

Baroffio, Albert, Jr., 812 Stockdale Ave., Monongahela, Pa. Operating a motorboat without a license 10.00
Chapman, Hughey, Box 277, Vestaburg Pa. Illegal operation of motorboat 10.00
Sturlese, John, 648 E. Main St., Monongahela, Pa. Operating a motorboat without a license 10.00

WAYNE COUNTY

Davis, Charles, R. D. No. 1, Waymart, Pa. Operating a motorboat without a license 10.00

WESTMORELAND COUNTY

Dunkel, Paul R., 634 Bell St., New Kensington, Pa. Failure to display license plates 5.00
Eisenhuth, Warren, Jr., 546 Summit St., New Kensington, Pa. Failure to display license plates 10.00
Mattioli, Nickoles, 208 W. 2nd Ave., Latrobe, Pa. Fishing without consent of owner 25.00
Mattioli, Nickoles, 208 W. 2nd Ave., Latrobe, Pa. Refusing to show fishing license on request 25.00
Milan, Mary M., Box 654, Export, Pa. One undersized bass 10.00
Plyler, A. R., 1715 Kenneth Ave., Arnold, Pa. Exceeding creel limit.. 10.00
Stairs, Donald C., 1026 W. Washington St., Mt. Pleasant, Pa. Operating a motorboat without a license 10.00

WYOMING COUNTY

Domeika, Victor, R. D. 1, Factoryville, Pa. Fishing without a license 25.00
Osterhout, Harry, Osterhout, Pa. Exceeding creel limit 10.00

YORK COUNTY

Anderson, Mrs. J. B., 166 W. Market St., York, Pa. Failure to display license plates 5.00
Baustian, Rammond A., York, Pa. Violation of the rules and regulations 20.00
Geise, Robert C., York, Pa. Selling short striped bass 60.00
Grumm, Clyde, York, Pa. Exceeding creel limit 30.00
Hartman, Sylvester, 1206 N. George St., York, Pa. Exceeding creel limit 30.00
Houck, Martin L., 31 E. 6th St., York, Pa. Exceeding creel limit 20.00
Riese, Rudolph, R. D. No. 2, York, Pa. Exceeding creel limit 30.00
Strickler, Stanley, York, Pa. Selling short striped bass 60.00
Triplett, Worthington, York, Pa. Illegal device 20.00
Urey, Elwood, R. D. No. 1, Woodbine, Pa. Operating a motorboat without a license 10.00

OUT OF STATE

Fountaine, Mrs. Wm. L., 120-C Monroe Park Apt., Wilmington, Del. Fishing without a license 25.00
Terrell, Joseph A., 127 F St., N. W., Washington, D. C. Fishing without a license 25.00
Stapleton, Robert M., 2471 S. W. 25th St., Miami, Fla. Fishing with a loaned resident fishing license 25.00
Eddy, C. N., 118 W. Lutz Ave., West Lafayette, Ind. Fishing without a license 25.00
George, Wm., 4232 Audrey Ave., Baltimore, Md. Fishing without a license 25.00
Balauskas, Joseph, 132 S. 3rd Ave., Mansville, N. J. Fishing without a license 25.00
Halat, Stephen E., 61 Center St., Clifton, N. J. Two undersized bass.. 20.00
Mayer, John F., 1004 Monroe Ave., Elizabeth, N. J. Fishing without a license 25.00
Plytyoski, Walter, 24 W. 30th St., Bayonne, N. J. Fishing without a license 25.00
Smith, John W., Box 269, Steveson Ave., Bridgeton, N. J. Giving false information to secure a fishing license 25.00
Benco, John S., 101-105 121st St., Richmond Hill, N. Y. Fishing without a license 25.00
Corea, John, 1040—40th St., Brooklyn, N. Y. Fishing without a license .. 25.00
English, Ralph T., 102 Grant Ave., Endicott, N. Y. Exceeding creel limit 10.00
Guinnip, Winfield, Boliver, N. Y. Fishing without a license 25.00
Marvin, Richard D., Ceres, N. Y. Exceeding creel limit 20.00
Simpson, John H., Jr., 414 N. 10th St., Olean, N. Y. Fishing with a resident license 25.00
Wenke, Peter P., 220 N. 11th St., Olean, N. Y. Two trout in closed season 20.00
Wenko, Robert W., 220 N. 11th St., Olean, N. Y. One trout in closed season 10.00
Miller, Edward G., R. D. No. 1, Columbus, Ohio. Exceeding creel limit 10.00
Oesch, Harry, Jr., 225 W. Park Ave., Columbus, Ohio. Exceeding creel limit 10.00
Rose, Edward M., 414 Trumbull Ave., Warren, Ohio. Fishing without a license 25.00
Foust, Samuel B., Milwaukee, Wisconsin. Fishing without a license .. 25.00

School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

"The melancholy days are come, the saddest of the year,
Of wailing winds and naked woods, and meadows brown and sear.
Heaped in the hollows of the grove, the withered leaves lie dead;
They rustle to the eddying gust, and to the rabbit's tread."

—BRYANT

The Time of the Mad Moon

No one seems very enthusiastic about November. It gets adjectives like dull, grey, and melancholy applied to it. Even the Indians called it the Time of the Mad Moon. But it is an important month for most plants and animals. Now the finishing steps in preparation for the deep, resistless cold ahead must be taken. And even though the woods seem bare and deserted, life silently and determinedly goes on.

Forcing Bulbs

Now, although the flowers and leaves have vanished from the landscape, there is no reason why there shouldn't be colorful flowers and leaves in your home or schoolroom. November is a fine time to *force* bulbs. When a florist speaks of *forcing* a plant, he usually means making it bloom during some other season than it normally would bloom.

The easiest way to secure winter foliage and blossoms is by using bulbs. The bulb is remarkable because enfolded in its brown case is the complete plant-to-be as well as food for its development. All you need to supply in several lilies is the proper temperature and moisture. This is true of the paper white narcissus, the yellow paper narcissus, and the Chinese sacred lily.

Several of these bulbs are usually arranged in a 2-inch high bowl. Between the bulbs, coarse sand, gravel, bright stones, or moss is often used to hold the bulbs in place. After this is saturated with water, the bowl and contents are set in a dark, cool place in order that the roots get a chance to grow. After the foliage has gotten a good start, put the bowl in a sunny window. Add water when needed. Keep from freezing and from excessive heat.

The hyacinth and amaryllis are also easily forced bulbous plants. Their large, colorful blossoms will make them welcome guests. *Buy the biggest, plumpest bulbs you can find. Experience will soon teach you that cheap bulbs are no bargain.*

Other Plants

If you are interested just in greenery and don't care for flowers, cut off the tops of carrots, beets, turnips, or parsnips and grow in water or in sand. A stunt is to cut one of these roots in half, hollow out, fill with water, and hang in the sunlight. Use a big root. Vines like wandering Jew, Philodendron and ivy will grow luxuriantly if the proper heat and humidity are available. Acorns placed in a pan in wet moss now and allowed a warm place will provide you with a miniature forest by the midddle of February.

Nest Project

Now that the leaves are gone, that bird's nest you couldn't locate last summer is going to stick out like the proverbial sore thumb. Nests are apt to be still in good condition, and a dozen different nests would make an interesting project. Each nest can be made more

Photos courtesy—W. Atlee Burpee Co.

durable by spraying it with LePage's glue and water (1 part glue to 3 parts water). The nest can be made more lifelike by modelling eggs from clay or carving them from soft wood. Get a good bird book so that you shape the eggs correctly and use the same colors that nature does when it is time to paint them.

CHUCK, THE WARDEN, SAYS:

Of all our natural blessings, probably none is quite as unique as top soil. Were there no soil, there would be no plants, so no animals, and therefore no food for man. The bed rock slowly breaks up into sand or clay, and these two soils when properly mixed and mellowed with humus make a magic substance that is at once common and priceless. It is our heritage, one that if used wisely will last forever. But wind and water are ever ready to steal away the soil, and man must be ever on the alert or these precious layers will be carried to the ocean; there it does no one any good.

MATCH QUIZ

What Tree	Has such leaves?
1.——American Holly	A. Star-shaped
2.——Box-elder	B. Oval, evergreen, spiny-toothed
3.——Gingko	C. Glandular teeth at base
4.——Horse chestnut	D. Green above, silver white below
5.——Juniper	E. Only "maple" with compound leaves
6.——Sweet Gum	F. Long, narrow with tapering tips
7.——Tree of Heaven	G. Bundles of 5 needles
8.——Tulip Tree	H. Scale-like
9.——White Pine	I. Keystone shaped
10.——White Poplar	J. Compound with 7 leaflets
11.——Weeping Willow	K. Fan-shaped

(Answers to Match Quiz: 1-B, 2-E, 3-K, 4-J, 5-H, 6-A, 7-C, 8-I, 9-G, 10-D, 11-F.)

PENNSYLVANIA Angler

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THROUGH ITS OFFICIAL PUBLICATION

The Pennsylvania Angler

The Pennsylvania Fish Commission

-:- EXTENDS TO EACH AND EVERYONE -:-

HOLIDAY GREETINGS

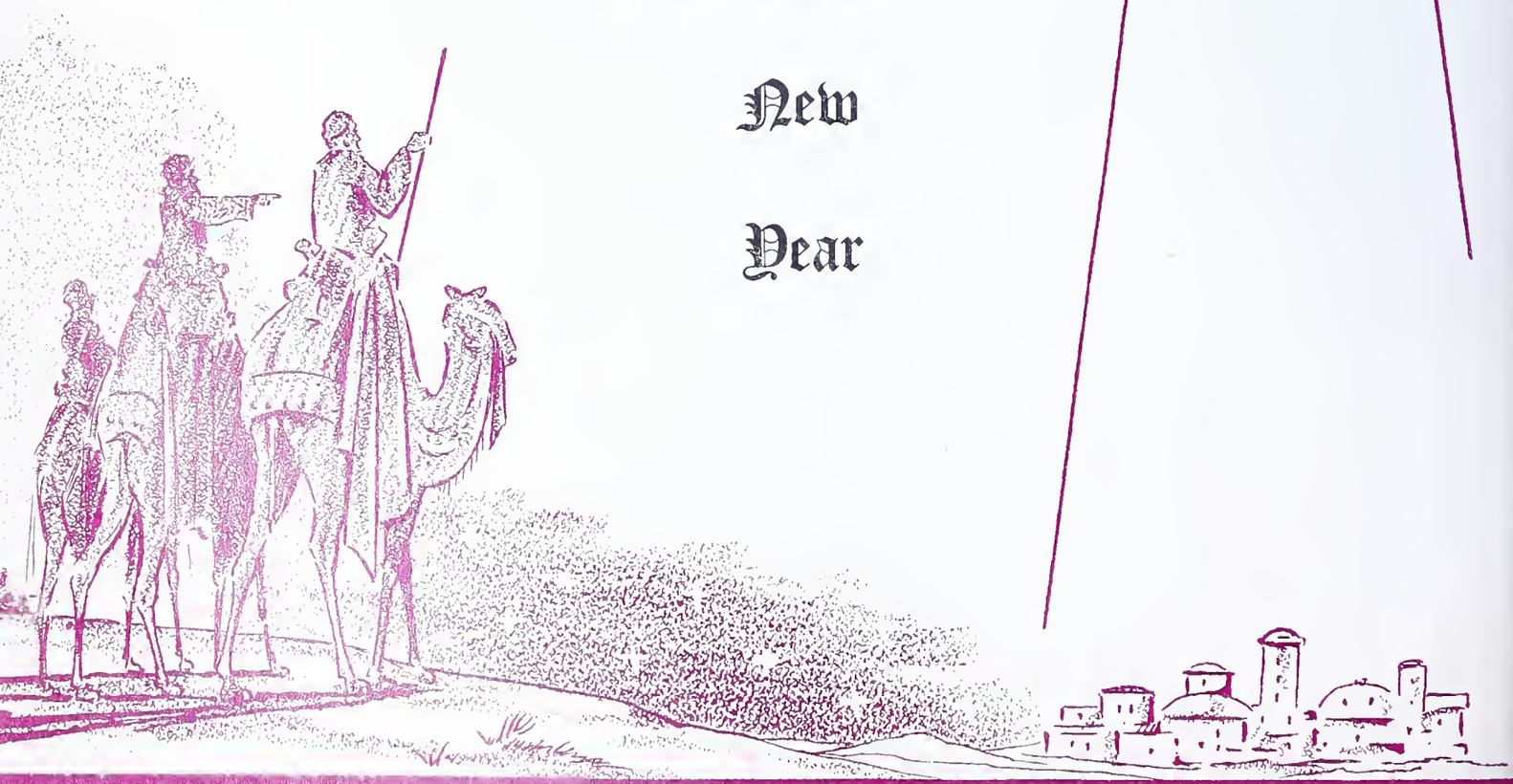
A Very Merry Christmas

A Peaceful and

Prosperous

New

Year



COMMONWEALTH OF PENNSYLVANIA

HON. JOHN S. FINE
GOVERNOR

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PENNSYLVANIA Angler

J. Allen Barrett—Director ..... Division of Public Relations

DECEMBER—1951 VOLUME XX, No. 12

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George W. Forrest, Editor 1339 East Philadelphia Street, York, Pa.

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The Editor's Angle

Dear Sir:

Enclosed find money order for one dollar for a two-year subscription to the PENNA. ANGLER.

Although I am over here fighting in Korea, I still have not forgotten about my favorite sport of fishing. Your magazine will keep me informed on Pennsylvania streams, etc., while I am here.

I always received the ANGLER when I was back in the states. I think you do a wonderful job of keeping the sportsmen informed of what is going on around the waters of Penna.

Cpl. Henry H. Walter
Somewhere in Korea

Dear Sir:

For sometime now I have been a subscriber to the PENNSYLVANIA ANGLER. I send my copies to my professional wrestler friends around the country and Canada.

The other day I got a letter from Tony Zurkowsky of Independence, Missouri. This gentleman is not only a fine wrestler but is known for his sportsmanship, hunting and fishing as well. I had sent my September issue of the ANGLER to him and he likes it so much he is going to pass it along to others.

I also ask my sportsmen friends this question, "What do the folks do out your way after building projects are completed, to replace wildlife, cover and food that is lost when these projects take away former wildlife habitats?"

I get the same reply from all over the country, Florida to California, "Nothing." Then folks wonder why the cost to go fishing and hunting goes up. They are to blame themselves for not replacing wildlife lost when man moves into their former habitats.

Thos. A. Mortimer
Wrestler's Sportsman's Club
Holyoke, Mass.

Dear Sir:

I am enclosing check for 50 cents for which please send the PENNSYLVANIA ANGLER to my son who is in the Armed Forces overseas. As his father, I think more parents should send their sons and daughters in the services the ANGLER as I know they would be glad to receive the one and only real Angler magazine. I am certain reading it every month wherever they are will help keep up their morale.

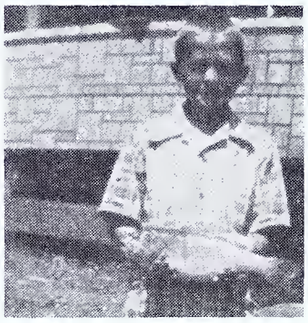
Lloyd S. Fisher
Hanover, Pa.

Dear Editor:

Enclosed are two pictures of fish caught by my nephews and their best friend. One is Billy Luffy, age 11, holding a 2-lb, 14-oz. smallmouth bass caught at St. George Eddy on the Allegheny river. The other is Tommy and Charlie Luffy holding a few bass, also a smallmouth caught at the same location. Tommy is 12 and Charlie is 7.

Your old edition of the magazine was excellent but the new one even excells that. Thank you for such a good magazine.

Robert Herrlich
Greensburg, Pa.



Dear Sir:

ANGLER for October, 1951, carries a very interesting article, "Are Fishermen Liars" by Bill Wolf. While I enjoyed this very much I believe you and Mr. Wolf will agree with me that he got away to a very bad start in his first paragraph when he states that Jonah was swallowed by a whale.

Not pretending to be a Bible student, I do wish to call his attention to the book of Jonah, 1:17, "now the Lord had prepared a great fish to swallow up Jonah." It says nothing whatsoever about a whale.

Tell Bill I'm after him (in a friendly way) and if he will come up this way next trouting season, will take him over to the Big Lackawaxen below Kimbal's, where the big browns and rainbows are really smart.

The article on "Pennsylvania Lakes" by Richard Williamson is also very interesting as these are lakes I have fly-fished for bass many years. But, as far as I am able to discover, Lake Poyntelle is not open to the public for public fishing.

The land has been purchased by a city group for camp purposes and an ordinary fisherman would have a very hard time getting a boat. This same condition exists at Lake Ladore in this area and it seems we are being squeezed constantly. While I realize this is, no doubt, a question for the legislature, we are gradually losing our lakes, one by one, the same being bought up by out-of-state groups for commercial purposes.

F. J. Waters
Jermyn, Pa.

Dear Sir:

Let's give Bill Wolf a little assist. I have fished for 40 years or more and could tell some stories about angling, "believe-it-or-not" stories that would make Mr. Ripley's yarns take a back seat.

I am a fly fishing fool and also use a spinning outfit that I like for using artificial baits and flies.

Here is one story that happened 12 years ago and the fisherman who was with me when it happened will not go fishing or get in a boat with me to this day. We were fishing Maplewood Lake and just as the skies darkened to make visibility poor on the water my partner yelled for me to get out of there quickly!

Excitedly yelling there was a 30-foot water snake going across the pond, he grabbed the oars and rowed to shore, a point half mile from our boat dock, got out and walked around the lake to the dock.

This gentleman still insists he saw a 30-foot snake and I could never convince him that it was a mother otter with 9 young ones hanging tail to tail . . . which it was!

Pete Mosier
Scranton, Pa.

Lots of folks have a good aim in life, but most of them don't know when to pull the trigger.

C. A. FRENCH RECOVERING AT HOME

At midnight, October 30, C. A. French, our Executive Director, was stricken with appendicitis and rushed to the operating room of the Polyclinic Hospital, Harrisburg, where an appendectomy was performed by the Hospital's Chief Surgean Dr. William K. McBride. The ANGLER reports that Mr. French is gradually recovering and is now convalescing at his home, 1951 North Front Street, Harrisburg. We confidently speak for all our personnel when we express our best wishes for his early return to the office.

MOSQUITO CREEK IMPROVED, SPORTSMEN REMOVE INACTIVE BEAVER DAMS

About 35 inactive beaver dams were removed from Mosquito Creek recently by more than 300 conservation-minded sportsmen ably headed by Thomas McKinney, chairman of the pollution committee for the Mosquito Creek Sportsmen's Association.

Paul Coudreit, President of the club assigned specific duties to the workers on the project which had previously been determined through surveys of the watershed. The club contended that: (1) decaying organic matter in the dams was detrimental to fishlife, (2) as the beavers cut down trees for food they also removed shade and cover, and (3) with no shade and impounding the water its temperature mounted to a point where trout could not hope to survive.

On the scene of the operations from the Pennsylvania Fish Commission were, District Supervisor, Carl Bidelspacher and Wardens Lester Ogden and David Dahlgren.

"My lure has a bobbing action. How about yours?"

Page 1
Form 3526
Rev. 2-49

Read the instructions on page 2 of this form.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233)

Of Pennsylvania Angler (Insert exact title of publication) published Monthly (State exact frequency of issue)

at Harrisburg, Pa. (Name of post office and State where publication has second-class entry) for October, 1951

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

	Name	Address
Publisher	Pennsylvania Fish Commission	Harrisburg, Pa.
Editor	George W. Forrest	1339 E. Phila. St., York, Pa.
Managing editor		
Business manager		

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Name	Address
Commonwealth of Pennsylvania Fish Commission	South Office Building Harrisburg, Pa.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

Name	Address
None	

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distriouted, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

George W. Forrest
(Signature of editor, publisher, business manager, or owner)

Sworn to and subscribed before me this 18th day of Sept. 1951

[SEAL]

John S. Garber
MY COMMISSION EXPIRES
(My commission expires February 1, 1953, 19)

19—INTRO-4

Figure 1. Variation in brook trout of the same age. Note the differences in markings, conformity, and coloration. Also note shortened gill covers on the fish at the left.

GENETICS *And Trout Breeding*

By James E. Wright, Jr.,
Assistant Professor of Genetics, The Pennsylvania State College

Photograph by George Gordon, Official Photographer, Pennsylvania Fish Commission

(Editor's Note: Dr. Wright has been retained by the Pennsylvania Fish Commission to serve in an advisory capacity to the proposed experimental breeding program.)

PART I

INCLUDED in the projects outlined for investigation at the proposed Fish Commission research station at Benner Springs on Spring Creek is the line breeding of trout. This experimental breeding aims at the improvement of trout brood stock through application of genetic methods. Fish culturists and fishery biologists have long viewed as a challenge the accomplishments of other animal husbandrymen and plant breeders in utilizing genetic knowledge for improvement of their stocks. This program is to be the Pennsylvania Fish Commission's acceptance of this challenge. More specifically, it will be the realization of plans held for many years by your Fish Commission's executive director, Mr. Charles A. French

One may ask why fish breeders have not previously attempted this type of breeding program on a wide scale. Certainly it has not been from a lack of interest. In fact, attempts have been made at numbers of hatcheries, including those in Pennsylvania, to select breeders on the basis of individual performance. In the cases reported, the results have seemed quite encouraging. Yet, strangely enough, most of these programs had to be terminated within a few years simply because the existing hatchery facilities were unsuitable or completely inadequate for this type of selective breeding. This, then, seems to be the answer.

The demands of the angling public have determined the function of most public hatcheries to be the production of increasingly large quantities of fish at the least possible expense. Hence, the fish culturists have had to become fish farmers who placed major emphasis on the production end of trout culture. Therefore, the hatching and rearing facilities at these hatcheries have been designed for this production. There has been little opportunity to carry out a breeding program which requires the holding of numerous small lots of fish under uniform conditions. One cannot question that the production program in Pennsylvania has been very successful. In 1950, 2,876,454 trout fingerlings weighing nearly 2 tons and 2,205,943 legal-sized trout weighing 353½ tons were stocked into our streams by the Pennsylvania Fish Commission. One can see from these figures that trout farming is a big business in Pennsylvania. In fact, few, if any, states equal or surpass ours in the magnitude of these operations.

The next question that may be raised is whether in the midst of this emphasis on production there has been any concerted effort to improve trout brood stocks. The whole success of artificial propagation of trout attests to the fact that there has been. All hatcherymen for years have selected the best fish in size and appearance for their breeders. It is common knowledge that these hatchery

strains so developed far outstrip any "'wild" trout in both growth rate and disease resistance. It should be a source of pride that the strains of the three trout species maintained in Pennsylvania are much-desired by many private hatcheries as well as by other states. Since these present strains will furnish the stocks for the experimental breeding program, then it might be well to review briefly the history of their development.

The following is an account of this development. It was related to the author by Mr. C. R. Buller who is chief fish culturist for the Pennsylvania Fish Commission and who has been associated with the Commission for some 37 years.

For twenty years or more wild rainbow trout eggs were brought into the eastern United States from the west. The resulting stocking was far from satisfactory and was practically discontinued. One of the difficulties involved was the fact that these wild rainbows were spring spawners. In order to raise them to legal size, they had to be held over through the ensuing winter—a period of slow growth. Subsequently there were developed two strains of so-called eastern domesticated rainbows—one at the Wytheville, Virginia, hatchery of the United States Fish and Wildlife Service and the other at a private hatchery, the Plymouth Rock Trout Company, William W. Whiting, Supt., Plymouth, Massachusetts. More satisfactory stocking results were obtained with these strains so the Pennsylvania Fish Commission became interested.

These two strains were obtained and a cross between the two gave rise to the strain maintained in Pennsylvania now. At first they were not strictly spring spawners but nearly so. By repeatedly selecting those rainbows which spawned earlier in the season, the present strain of late-fall spawners was developed.

The brook trout that Pennsylvania now has go back to 1898 when they were brought from the State Fish Hatchery at Donegal Springs Hatchery to the State Fish Hatchery at Allentown. It is probable that this strain originally came from New Jersey and was later established at a private hatchery at Penn Forest in Carbon County and at the Paradise Brook Trout Company at Cresco, Monroe County. For many years our Fish Commission purchased brook trout eggs from these two private hatcheries as did many other eastern states and Canada. At present some brook trout eggs are received from these and other sources in exchange for eggs of the other two trout species. These commercial hatcheries in the last 20 years have changed their brook trout to a lighter color since their markets demanded a lighter colored fish. It is probable that through exchanges with these hatcheries the Fish Commission's brook trout are lighter colored than they once were.

Three major improvements have been made in our brook trout; namely, faster growth rate, increased disease resistance, and increased ability to survive higher temperatures. The latter two have been accomplished through both natural and artificial selection. By natural selection is meant survival of the fittest. The temperature has become higher in most of our waters, including those at the hatcheries. Mr. Buller states that brook trout fry could not be raised to maturity in the water taken from Spring Creek at the lower Spring Creek Project or at the Pleasant Mount Hatchery until relatively recently because of this factor. Literally thousands of brook trout were sacrificed at the latter hatchery in order to select those which would stand the normal summer temperatures in these waters. The story on increased disease resistance would be similar.

Faster growth rate has been accomplished primarily through artificial selection; that is, those trout which grew rapidly were deliberately saved as brood fish. It has been proven that when our strain of brook trout are released in Canadian waters they grow to the same size as their legendary wild brookies. Of course, some share of the credit for these improvements in brook trout should go to the commercial hatcherymen who have supplied eggs to the Fish Commission in the past.

Brown trout were brought into Pennsylvania within a year or two after 1883 when Herr von Behr introduced them into the United States from Germany. The Fish Commission discontinued stocking brown trout for a period of years before 1932. In that year they were able to obtain eggs of the original introduced strain which had been maintained at the Allentown hatchery. These formed the brood stock for our present strain.

In the light of these developments, let us now consider what a more elaborate experimental breeding program might accomplish. The present breeding method in which a number of individuals approaching the desired type are selected in each generation as brood fish is known as mass selection. It has been, and still is, an effective method of increasing and maintaining desirable qualities in the breeding stocks of plants and animals as well as of fish. It does, however, have limitations. It has been shown by plant and animal breeders that such selection is not permanently effective and must be repeated each generation. In other words, often great variation in characteristics remains after long periods of such selection and if selection is relaxed, the population may lose some of the ground gained in the past. Anyone who has visited a trout hatchery is familiar with the great deal of variation in size, conformity, coloration, and markings that exists in fish of the same age. This is illustrated in Figure I.

It is at this point that application of the knowledge of genetics to the breeding program should lead to further advances in building and fixation of superior strains of trout. Here then we begin to sift out of the present variable population those individuals which are superior in certain qualities to see if these superior qualities are transmitted to subsequent generations. That is, the breeding behavior of individual brood fish is considered in addition to their appearance. *Final selection of parents of a new strain is determined, therefore, by observation of one or more generations of an individual's offspring, as well as its parents and grandparents.* In other words, each of the fish will then have a pedigree. We should be able then to predict, within certain limits, what the progeny of two fish or of two groups of fish will be simply by inspecting their respective pedigrees. But how do we know that we should be able to predict within any limits what a group of offspring should be before we even see them? This is where genetics, the science of heredity, comes in.

In the second of this series of articles we shall develop some of the basic principles of the science of genetics as it might apply to trout. Then one can better understand why and how this program should offer possibilities in trout improvement.

A NEW ERA for an Old Canal

By
Harvey R. Frantz
Incodel Conservationist

IN the eighteen hundreds the Lehigh Canal connecting the coal regions with the Delaware Canal at Easton played as important a part in developing the Lehigh Valley as the railroads do today. But with the coming of steam and now oil, inland water transportation in eastern Pennsylvania has practically disappeared.

The Lehigh Canal, at one time full of clean water and a pleasant place to swim and fish, has now degenerated for the most part into a series of stagnant pools enclosed in ash and garbage-strewn banks. Instead of fish in the Canal, there are relics of civilization such as bed springs, tires, bottles, cans and and a collection of other things that could be found only on a dump.

The portion of the Canal between Lock 43 at Bethlehem and Lock 44 at Freemansburg, a distance of about two miles, is no exception unless it had more junk and trash because of its proximity to habitation.

For many years there has been talk of doing something about this stretch of the Canal. The Lehigh Coal and Navigation Company, owners of the Canal, did what they could to maintain it but public apathy and indifference countered their efforts.

At last the local Sportsmen's

Clubs recognized the situation and things began to happen. Six clubs sent representatives to a meeting called by Leo Gallagher of the Freemansburg Rod and Gun Club to discuss what could be done about the Canal. Clubs represented were the Monocacy Field and Stream Association, Bethlehem Game, Fish and Forestry Association, both of Bethlehem; Freemansburg Rod and Gun Club; Hellertown Sportsmen's Association; Lower Saucon Sportsmen's Association and Miller Heights Sportsmen's Association.

Mr. Gallagher had made preliminary contacts with the Lehigh Coal and Navigation Company and they told him they would consider leasing a section of the Canal to an organized group. When this message was relayed to the club representatives they characteristically said, "Let's organize."

It was decided to form an Inter-Club Canal Commission made up of three representatives from each club. A president, a secretary and a treasurer were elected by these representatives and also one vice president from each club. The next step was to look over the Canal and see what had to be done in order to put the Canal back to something like its former self.

Three scours or breaks were found on the tow path that would have to be filled before water could be held in the Canal. Above Lock 44 a site was picked for a dam which, once the scours were filled, would hold back the water and maintain an average of 5′ of water. The dirtiest part of the job, it was decided, would be wading in the water and picking out the assorted objects of years' accumulation of dumping.

The local health officer pointed out that there are at present four cesspools emptying into the Canal. When these are plugged up, this portion of the Canal will be free of pollution.

After the reconnaissance was made, a committee of the Inter-Club Canal Commission met with representatives of the Lehigh Coal and Navigation Company. After discussing the situation a temporary license or lease was drawn up to be in effect until the Commission becomes incorporated. A token payment of $5 a year will be made to the Lehigh Coal and Navigation Company.

The Commission will be in complete charge of the Canal between Lock 44 and Lock 43 and will be responsible for the construction, maintenance and policing of this section. After the Commission builds a dam, the company will divert water into the leased portion, and will maintain a water supply.

The first step the Commission took was to have signs printed and posted stating the area was open to the public for fishing and recreation at the people's own risk. No dumping signs were posted on the

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DIRTY JOB of cleaning canal of bed springs, tires, bottles, cans and rubbish fell to sportsmen of the Inter-Club Canal Commission. Wading in the muck and garbage of the old canal was no cinch.

SCRUBBED CLEAN, the canal looks like this after many man hours of sweat and toil. This section is ready for fish stocking and swimming.

BEFORE CLEAN-UP, canal looked like this . . . dirty, full of rubbish, a disgrace and menace to the health of communities along its length.

The Stingers

By Wendell P. Ditmer--Botanist
Bureau of Plant Industry
Pennsylvania Department of Agriculture

No doubt you'll come up with a variation in spelling for this plant if you've ever been stung by it as you fished along the stream. Though it causes exquisite pain for a while, it has beneficial uses, some of which may surprise you.

Have you ever wondered what caused the stinging sensation on your hands or legs while you were walking along a stream fishing? The plant that causes all this trouble is the common nettle. There are several species in this family that cause an irritation of the skin, some not as bad as others. The stinging nettle (Urtica dioica L.) is the worst stinger in the family as compared with the tall or slender, small, and wood nettles.

The nettle is a perennial herb covered with stinging hairs. These hairs contain formic acid which causes an irritation and rash to the skin of animals and men. The leaves, as shown in the picture, are long and oval, heart-shaped at the base, and with serrated edges. The flowers are small and in slender, branched clusters, greenish in color during the summer. The young plants appear in the spring and by June and July are in full bloom, lasting until September. As long as the small hairs are green they have their stinging ability, but when dry they are harmless. These plants are found growing in waste places, along roadsides, fence-rows, and in moist ground. They originally were introduced from Europe and now cover a large portion of the United States.

This much-despised weed has, in days gone by, proved an exceedingly useful friend to mankind. The stem contains a large proportion of fiber, which has been manufactured into every grade of material from ropes and cordage to fine white linen. It was much used in the manufacture of textile fabrics by the ancient Egyptians, and even at the present day supplies the inhabitants of Siberia with fishing lines and cordage. In Central Europe during World War I, the fibers from the stems were used in the manufacturing of

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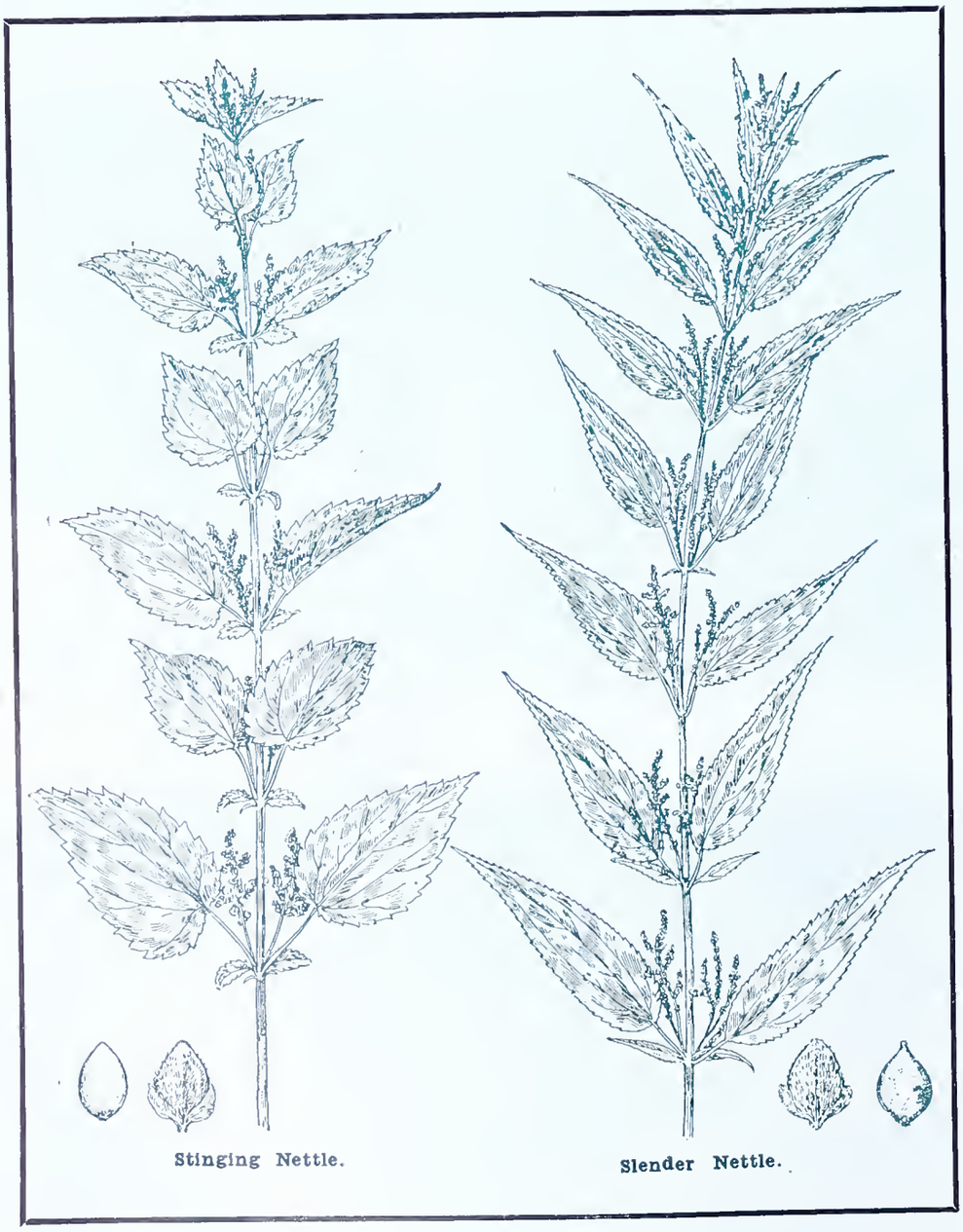


Stinging Nettle. Slender Nettle.

LIKE PLANTS, FISH NEED SPACE TO GROW

The wise farmer plants his crops so that they will have space enough to grow properly and also in consideration of the number of plants his soil will nourish.

The experienced poultryman knows that space is a definite factor in egg-laying—that a hen needs a certain area of floor space in order to be healthy and productive.

The same rule applies to fish in a hatchery.

Put a goldfish in a small bowl, and even if it is given the best food available it will rarely grow longer than three or four inches. But move that same fish into a large pool, and give it the same food, and it is likely to attain a length of twelve to fourteen inches. That's an example of living space for fish.

Bass need an enormous amount of space. Trout can be pretty well crowded. Hatchery experts know those facts.

But now technicians at the Fisheries Research Laboratory of the Pennsylvania Fish Commission at Bellefonte are attempting to reduce the problem of space to scientific figures. Beginning with brook trout, they are trying to determine just how much living space a hatchery fish needs to thrive and be healthy.

Facts they learn will be used in designing the new research laboratory and experimental station at Benner Springs, in Centre County.

Brown Trout With a King Size Appetite

This brown trout examined in the Fish Commission's laboratory at Bellefonte, Pennsylvania, contained a total of 12 minnows. These consisted of 2 black-nose dace and 10 northern creek chubs.

1951

A Good Year For Big

PENNSYLVANIA MUSKIES

On Aug. 4, 1951, Wm. Alexopolis, Pittsburgh, put the hooks to this big muskie in Conneaut Lake. The fish, weighed 42½ pounds, 55 inches long. It is held by (l-r) Adam Marshall and "Moon" Miller, friends of Mr. Alexopolis who just returned empty handed from a Canadian trip.

Fred Kohler, Pittsburgh, Pa., landed this 46½-inch, 32-pound muskie at Lake LeBoeuf, Waterford.

Photo by LOWTHER.

Rupert Nelson snagged this 26½ pound, 45½ inch muskie in the Allegheny River at Port Allegheny this season.

→

81-year-old Albert Anderson (left) with help of Merle Klinginsmith (with fish) hooked this 40 pound, 2 oz., 48½ inch 'lunge at Conneaut Lake, July 21, 1951.

SEE NEXT PAGE for story, "Tigers of the Shenango River" by Al Wolgast for more muskie chatter and pictures.

Merle Klingensmith gets into the act again with this 30 pound, 43 inch muskie which he took at Conneaut Lake on July 28, this year. Pennsylvania has plenty of good muskie territory, see article by W. T. Patterson in August 1951 issue of the PENNSYLVANIA ANGLER, "Wantta Catch A Muskie?"

Photo By Lowther

TIGERS *of the* SHENANGO RIVER

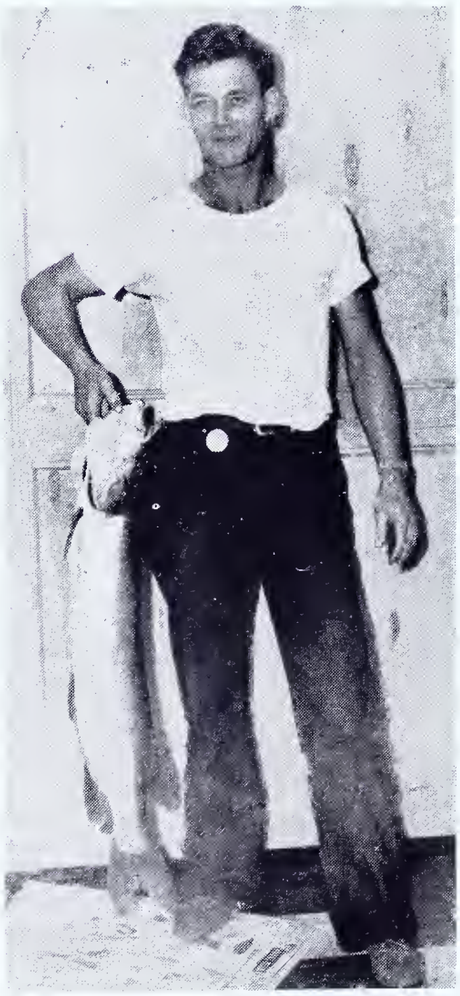
By Albert M. Wolgast

SEVEN miles northeast of Sharon, Pa., lies the sleepy and serene little village of Clarksville with a lazy river in its back yard. The village itself is like a great number of other small communities with a population of about 350 people, a few stores, an active Volunteer Fire Department, a grade school, two churches and that's about all.

But just a few steps away from the heart of the village lies the Shenango River, home of the largest muskies in the country. This is no exaggeration or a "come on" by the Clarksville Chamber of Commerce. To be truthful, "there just ain't no Chamber." But as to muskies, man alive, I've seen them caught and for weeks I have been plying the river with a boat hoping and at the same time fearful of hooking on to one of these huge, teeth-gnashing fighters.

Muskie fishing here in the Clarksville area is at its best during the late months, particularly September, October and November and one will find dozens of boats, mostly homemade, working the river from Fruitsmills, four miles above Clarksville, down to the famous McGrath's Hole, then on down farther to the Stonewall right in the village finally a stop two miles down at the Slackwater Bridge area, where not only will the elusive muskie be found, but giant cats as well.

Russell Cubbison, Clarksville, Pa., veteran angler, snagged this 48½-inch, a bit over 32 pound "Tiger of the Shenango" below the famous McGrath's Hole near Clarksville.



Glenn Strauss, Sharon, Pa., and this 41½-inch, 20-pound muskie tangled at the Clarksville RR bridge on the Shenango, October 16. It was the second 20-pounder Strauss has taken within the past year.

The most recent muskie kill was made in September below McGrath's Hole by Russell Cubbison of Clarksville (see photo), a veteran river-fisherman. Russ was out on the Shenango with his fishing pal, Bob Young, both using artificial lures. Young, casting out a spoon, had it reeling in slowly when a mighty big chunk of water parted and a giant muskie hit it short.

Acting as a unit, Russ promptly shot out his favorite red and white plug and brought it up to the still raging fish. Whamo, the angry monster struck the plug so hard it required Russ only 15 minutes to bring the threshing muskie to the boat and the gaff.

The fish measured 48½ inches and weighed a few ounces over 32 pounds. The giant is being mounted and will adorn the wall of Al Williams Clark House. So when you're riding around, drop in and take a look at what can be caught in our Shenango River without going to great expense of traveling to Canadian and other far-off waters.

If some of you readers wonder if that's the largest muskie caught in this area, get a glimpse of this. Down at Slackwater Bridge, a few miles west of Clarksville, romps the daddy of all Shenango River muskies. For some years, this particular fish has been giving the district piscatorial fans a rough time. Plug after plug has been lost, many rods have been smashed and yards of good sturdy line has failed to bring in this muskie. All over the river he is fondly called *Big Mike*. I say fondly, because all of us who work the river at the Bridge admire the fighting qualities of Big Mike.

From old timers who have plugs bearing teeth marks of the huge muskie, information I have received as to size is that Big Mike would weigh in at 40 to 50 pounds and would measure a good 60 inches. This has been substantiated by a number of men who know of Big Mike, and will tell you that right in Clarksville, at the Stonewall, there has been seen a number of times, muskies that average five feet.

So fellows, forget about your trip to costly areas. For the elusive muskie, you can't go wrong coming to Clarksville, a timid little village with dynamite in its backyard Shenango River. A village where such kills as Russ made that sunny day causes but little excitement, but then the folks there are used to it.

* * *

I mentioned earlier in the story about

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BIG MIKE, 14-foot river boat built by Al and Bill Wolgast, Farrell, Pa., for less than $25 from plans in the May 1951 ANGLER.

Ten-inch blue fish caught by Philadelphia angler, has large unbroken rubber band running through and around its body. It was dissected by a scientist but he couldn't determine how it was done. Inset dotted line shows course of rubber band through body.

RUBBER BAND THROUGH FISH STUMPS EXPERTS

By Joe Pancoast

Outdoor Editor—Philadelphia Bulletin

Reprinted by permission of the Bulletin

This most baffling story originally appeared in the Sunday Bulletin. To date no one has come up with the answer. If you have an explanation write us the answer. "Whodunit" fans should get a bang out of this one.

One of the most baffling oddities to come out of the sea in a long time was landed last week by James J. Kennedy, 736 E. Tioga St., while fishing from a Townsends Inlet party boat.

The catch was a 10-inch bluefish carrying a rubber band clear through its body and over the fish's back. The rubber was continuous without any signs of a joint. It entered soft flesh about an inch back of the gill covers and about an inch up from the fish's underside and could be moved back and forth through the blue's body.

The mystery hinges on the rubber band. How did it get there?

There are disinterested witnesses to attest to the authenticity of the catch—that it was hooked in the usual manner and pulled from the water while still alive.

Band Wore Groove

The rubber band had been on the fish a sufficient length of time to wear a groove in the flesh ranging from 1-16 to 1-8 of an inch deep from the point where it passed through the body, near the pectoral fins, up over the fish's back. Part of the dorsal fin had also been worn away.

This reporter, stumped in trying to determine how the blue acquired the appendage, toted the specimen up to Dr. Henry Fowler, Curator of Fishes, Academy of Natural Sciences.

A careful examination by Dr. Fowler disclosed no outward signs of an incision or disruption of the scales except where the rubber had cut into the upper two-thirds of the body. An autopsy also failed to de-

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WINTER

From a Camera Angle

By Josef Muench

The music of water and wind w

in the evening.

Beneath a black-velvet sky dusted with st

the kid shared his

secret of the mysterious "Spawning

Da

k Water

By Jim Hayes

WE left the mainstream about ten o'clock, cleaned our trout in the tributary run, and began the steep ascent to the spawning pool.

It was strange in the ravine, climbing in shadow, the surge of fast water roaring in our heads. Everything was spray and thunder and the moist coolness of wet rocks. The kid led the way, jumping from rock to rock.

At last, breathing hard, we reached the summit. There was no more stream ahead. Just laurel and fern and rocks and, before us, this huge boulder, the deep pool basined against its face. It was a big pool, bigger than any we had passed on the way up: big, spring-fed and deep.

This was the place. This was where the native trout came to spawn, came in their brightest colors to lay their eggs and swim back to the mainstream. It was the end of their world, and the beginning. We stood there awhile without speaking.

"Thanks," I said, turning to the kid. "It's worth the climb."

"You won't tell nobody," he said. "I wouldn't of brung you if I thought you'd tell."

"It'll be our secret," I assured him. "Yours and mine."

* * *

That's all gone now; so it doesn't matter if I tell. The mainstream is in the Allegheny Mountains—Breastwork Run.

If you fished it, you'd remember the water. Cold and clean, with a song all its own. You'd remember the rapids where the tributary dashed frothing into the mainstream. It's a wild place, thick with laurel and dark with shadow, sound-washed with the roar of crazy water. And here, like me, you'd pause to watch the smaller stream on its final downhill run, churning over falls and snaking between the big rocks.

Inviting—yes; a likely spot for brookies. But when you have a

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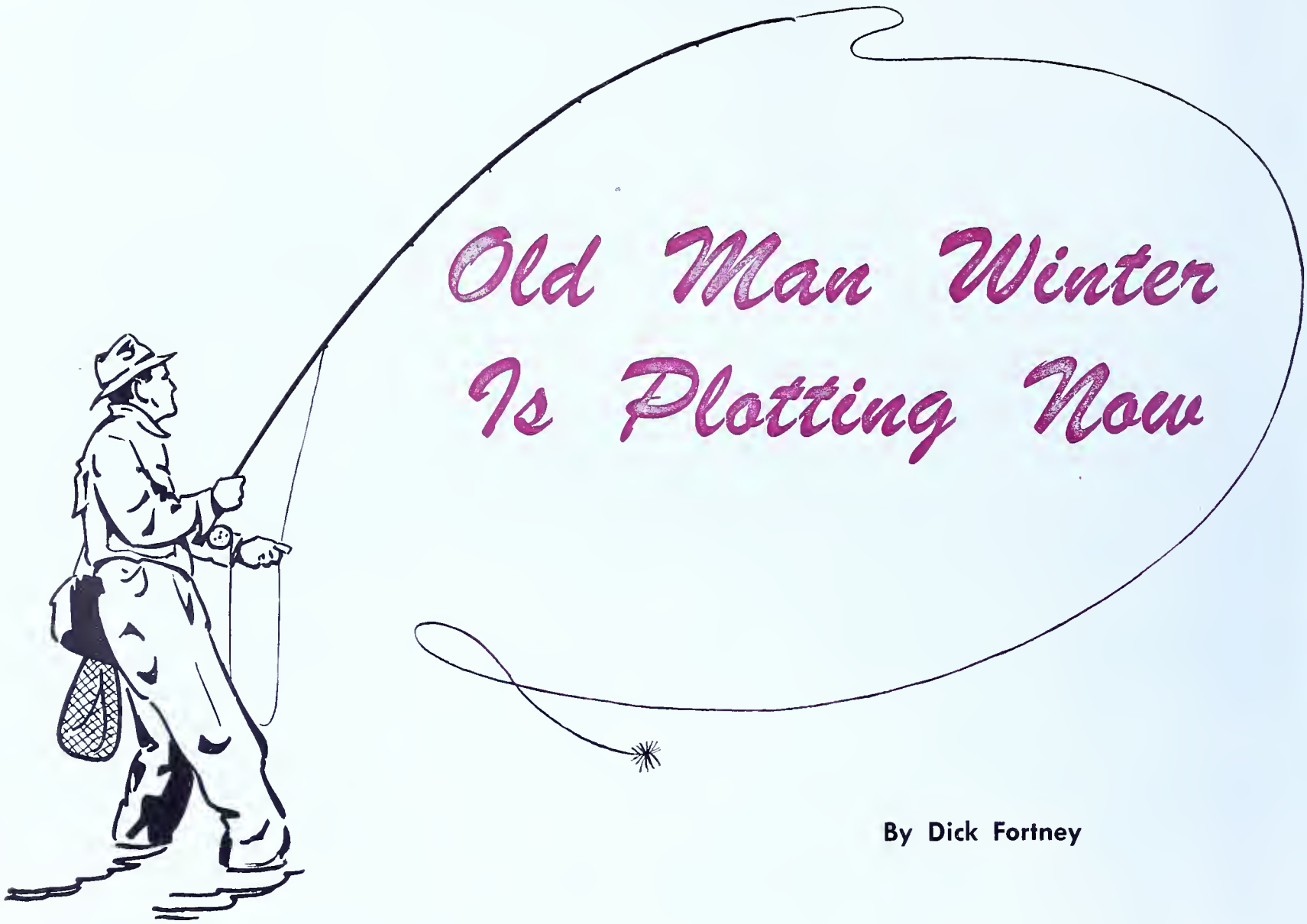

Old Man Winter Is Plotting Now

By Dick Fortney

Right now, while you're settled comfortably in your favorite chair reading this magazine, Old Man Winter is piling up some tough problems that you'll have to solve early in the fishing season of next year.

And, if you're wise, you'll begin thinking about these problems, how you'll meet and solve them, so you may enjoy trout fishing when April 15 rolls around again.

If you were to brave the wintry blasts and pay a visit to your favorite trout stream, you would scarcely recognize it in its winter dress. But you would see Old Man Winter at work—carpeting the ground along the stream with a blanket of snow and drawing a glassy covering of ice over the pools.

Remember that spring freshets run off first in the mountain brooks, like this one in Bradford County. The pools and riffles take form there long before they appear in the bigger creeks, so they are worth attention early in the season.

Comes spring, when the sun and warm breezes melt the ice and snow, your pet stream will change again, become more of a raging torrent than a rippling brook, a rush of icy cold water with scarcely a placid pool in its entire length.

For weeks the condition will prevail, with spring rains keeping the water high, often discolored.

Of course, there are seasons when spring comes early, when the snowfall and ice have been light, vanish rapidly, when the rains are light and gentle and well spaced. But the angler cannot count on them. Rather, he has to prepare for a few weeks, at least, of trout fishing that will try his patience and skill.

Difficult fishing conditions are not the only challenge to the angler, however. The trout themselves are just moving out of their winter quarters, into the deeper and more protected areas of the

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Photo by William Hoffman on the Buttermilk Falls near Stroudsburg, Pa.

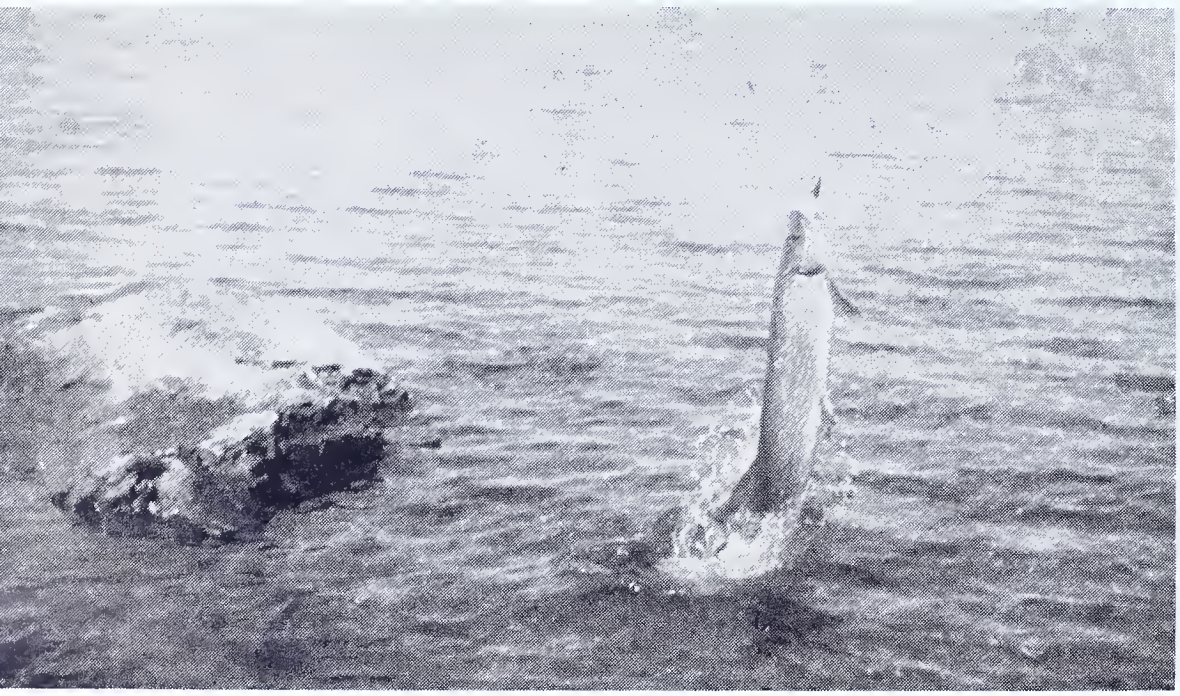
KING WINTER is Weaving a Snowy Blanket and Spinning an Icy Web over Your Favorite Trout Stream. Plan Now the Strategy You'll Use Next April 15!

FILMING FISH ABOVE WATER

By Ormal I. Sprungman

Camera Editor, *Sports Afield;* Author of *Photography Afield*
(Stackpole Co., Harrisburg, Pa.)

Photographs by Author



Ever see a grandaddy pike smoking a plug? This three-footer was nicely "frozen" on an upward climb at 1/300 second with a minicam.

A good fishing partner is essential to hook the fish and bring it up within picture range. Here Dick Miller, breaker of 32 world's records in tournament casting, brings a mighty bass to the surface for a leaping portrait. Here a shutter speed of 1/200 second was too slow.

AS a Pennsylvania angler, how do you film your fish? Do you gill-string the slippery fellows and let your partner hold them up at arm's length before the camera lens?

Or do you break out your camera with a fairly fast shutter speed and try to catch the fighting fish as they crack through the surface and wag a tail while they throw the hook?

Filming fish above water is an invigorating sport that will test your ingenuity and tell you instantly whether you have a good eye and a quick trigger finger. First requisite is a fishing partner who will cooperate. While some photographers have been successful in clicking a camera with one hand while fighting a fish with the other, a good angling partner will prove helpful. Once the fish is hooked, he should be brought to the surface as quickly as possible. Let him float just beneath the surface, then, with a quick upward jerk of the rod tip, bring him into action for a leap.

Focus at the spot where the line enters the water, and click the shutter just as the fish starts its upward run, and you will catch him in midair. If you wait too long, you will catch only the final splash.

A miniature camera permits easy manipulation, although a ground-glass focusing reflex camera has advantages in maintaining accurate focus up until the time of shutter-clicking.

Study the pix illustrated on these pages, and you will be amazed at the number of different contortions through which a leaping pike can wriggle his body. Several illustrations were made with a miniature camera with a top shutter speed of 1/300 second. To "freeze" water globules in midair, speeds up to 1/1000 second are needed, as shown here. Fast super-sensitive panchromatic film should always be used to offset the fast shutter speed required, particularly if a light yellow filter is also used to cut water glare.

Pennsylvania's lakes and streams are boiling with big fish waiting to pose for a split-second for your camera. Next time you go angling, take your camera along and get double the fun and a picture spread to help refresh your memory over the winter and during the years that follow.

Top shutter speed of 1/1000 second was used to halt this pike in mid-air after it tried without success to throw copper spoon.

Looks like a midget crater in the lake. Out of it erupted this giant pike.

Northern pike are good leapers, as compared with smaller species. This fellow created a perfect U-shape with an upward flip of his tail. Taken with a miniature camera at 1/300 second.

Some Boats, Tubs an

"Fishing," often remarks my Uncle Josh, "is a wonderful sport. It's only when you rent a boat to dangle a line, that you have misgivings. Them rented boats will be the death of me yet."

And what's more my Uncle is correct. Ever since I was knee high to a hip boot I've been fishing with the old angler and the trouble we've been having with boats would try the patience of Izaak Walton himself.

During the score or so years Josh and I have rowed, paddled and motorboated the azure lakes of our great state of Pennsylvania, we have encountered boats that were pips. Honestly, how some of them ever remained afloat is still a mystery to us. Sure, we've rented some nice boats; the odds can't always be against you, but these are quickly forgotten in the time of strife. It's the lemons that stand out and leave a bad taste on the palate.

When it comes to down-right cussedness there is nothing gets our nanny than to pick up a boat that makes you row on the bias. Such lobsided work gets you all in a dither and fit to be tied in halfhitches. Can you visualize being all set to pull against the current to your favorite spot and zowie—the oars want to overlap and bark the knuckles?

If you're like us you'll spew forth a few split infinitives not found in the "Pennsylvania Angler" trying to maneuver the craft anyway. Sure it'll be tough, but you'll be darned if you give up that easy. A small thing like cockeyed oars won't stand between you and those elusive beauties, no siree.

When the lunch and thermos jugs start to float and you're in water up to your knees, it was time long ago to head for shore.

Maybe like some of us you've rented a prize Chesapeake style boat where the oars are forever falling through the rings at the wrong moment. Try as hard as you will the things refuse to function. In sheer desperation you rack your brains to solve the knotty problem.

Should you use the oars as a punting pole or as paddles? A furtive glance in the direction of the boathouse and off you go awkwardly propelling the small vessel toward the fishing grounds. Maybe your method isn't graceful but it gets results.

Sooner or later all intrepid fishermen will encounter a boat which has Indian ancestry. The oar locks screech like an Iroquois brave on the warpath. All who hear the approach of this squeaky instruments of the watery regions will look at you in askance. Pay no attention to them but grit your dentures and carry on stout fellow!

One solution to this noise is to borrow some 3 and 1 from a passing motorboat. If this doesn't quiet the racket he might give you a tow

Oarlocks screech like an Indian brave on the warpath.

Sieves I Have Rented

By Richard C. Redmond

Ever rented a "booby trap" commonly called a boat but more like a leaky tub with a theme song, "Bailing, Bailing, Over the Bounding Main?" The writer takes a humorous poke at such sieves but there's *DANGER* in every rotten plank!

just to eliminate the commotion. Usually this squeak and squawk like a strangled goose is more pronounced at five in the morning when all is peaceful and quiet on the lake. Then the screeches hit high C, maddening to you and down-right mayhem to the sleeper in a nearby cottage.

Of course the boat which doubles as a floating sieve is always with us. This punctured remnant of better days will often have a small can for bailing out the bilge. Like as not this method is a waste of energy and as about as effective as trying to empty the Schuylkill with a teaspoon. In no time you'll be sloshing around in water up to your knees as the liquid pours in with all the power of a gusher. The wise angler seeing this, will pull for the shore—and fast! That is if he wishes to cast his line another day.

Another irritating problem we often find with boat rentals are the seating arrangements. It sometimes seems the boat was designed either for an orangutan or a gent with telescope arms. No matter how you try, you positively cannot wield the oars successfully. You measure the things and find the seats are a good three feet away from a good rowing position.

It's either move the seat or row with the feet. Since most fishermen are not acrobats with size 14 feet it is advisable to move the seat. Once this is accomplished calm and serenity will prevail and life again will have that rosy glow. By then it's time to go home.

Occasionally my uncle and I will rent a boat which is as heavy and unmaneuverable as a garbage scow in heavy water. These are fine if you like to work like a horse. "Neigh" to this, brother! Making headway with this monstrosity requires a husky crew of piano movers well versed in the art of rowing.

If you are an ordinary fellow like myself such a scow will have you muscle-bound and aged before your time. These tugs should be obstacle training boats for college crews.

Ofttimes your tired fisherman will be reluctant about rowing to that shady pool where the lily pads placidly nestle and hire a boat with a kicker. Outwardly the job is not bad at all. It glistens of fresh paint and varnish, and shines like a silver spoon in the sunlight. You don't know it, but that kicker has been aptly named.

Once the unwary angler gets the item into motion it's something else again. The darn thing isn't a boat, it's a bucking bronco—and a speedy one at that. The way it tears across the water, jumping and hopping like a supercharged water bug is something to behold.

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Misplaced seats, mis-matched oars add to the joys (?) of fishing.

ROD MAKING

As An

Angler's Winter Recreation

By Charles H. Chapman

The writer does not pose as an expert at rod making and freely admits it. It's in the fun of working with your hands among the tools of the angler's trade which shortens the long winter nights.

Every year I read advice about the fisherman's diversions in the off season; dressing lines, cleaning reels, mending rods, etc., but find little mention of one occupation which has given me many happy hours . . . rod making or more specifically wood rod making. Construction of the split bamboo fly rod is an art limited to the professional or the few top notch amateurs, but any man handy with tools can turn out a very good and useful rod of suitable wood.

But the first question will be, "Is it as good as a good split bamboo?" The answer is emphatically . . . No." I regard the fine split bamboo rod the acme of strength, power and lightness, but I would rather fish with a good wood rod, built to suit my requirements, than with any poor split bamboo.

When I first learned to fish for trout in the Brodheads, some sixty years ago, many *good* fishermen were still using *good* wood rods. I recall a nine foot, two piece, spliced rod of Bethabara that I greatly admired.

It was put out by Wm. Mills & Co. and was a delightful rod to fish with. For trolling or casting, a one-piece, lancewood or white ash can hold its own with any split bamboo, and for salt water fishing, give me the wood rod every time.

What started me on rod making was economy and what has kept me at it these many years is the pleasure I have gotten out of it. My first visit to Henryville was to get rid of a severe case of Malaria, otherwise old fashioned chills and fever. Up to that time I had never seen a trout except in a glass tank or butcher shop. My host, one of the best fisherman on those streams, was my instructor in the craft, first with bait, then with flies. I at once became an ardent disciple and of course wanted to replace my borrowed rod with one of my very own. But the cheapest rod my mentor would recommend cost fifteen dollars, which meant in those days fifteen big, standard, gold dollars that would really buy something, not the degenerate bits of paper we have to put up with nowadays I was out of a job then with a poor prospect of starting work in the immediate future. Fifteen dollars looked like a lot of money.

Then the idea was born, "Why not make a rod," and being somewhat handy with tools, I resolved to try it. My first rod, of lancewood, was a dismal affair, but it caught fish and after I had made two or three more I was thoroughly indoctrinated, have been at it on and off ever since.

I am not going to tell you how because if you are a good handicraftsman you will naturally use your own methods. Just circulate among your friends, try their rods and when you find one you like, take the measurements and "the feel" and try to imitate it in wood. Your rod will be a little heavier than split bamboo and perhaps a little softer, but it will catch fish and upon landing a big one you will get a thrill to the handling him on your own handiwork and on your own flies, if you tie them, you will never feel with bought tackle.

There are a number of books published on rod making and some useful hints can usually be found in them, but don't follow them too closely. Use your own methods. Among others, Dr. H. P. Wells "Fly Rods and Fly Tackle" contains a very complete analysis of rod woods with instructions for making; Perry Fraser's "Rod Making" is a useful little book and Dr. George Parker Holden's "Idyll of the Split Bamboo" is good reading.

There are some advantages for the wood rod over the split bamboo. When the joints are finished and joined, rig some temporary guides before varnishing and try it out. You can scrape the joints thinner to take out stiffness or shorten them up a trifle to make them stiffer; but when a bamboo joint is made it is fixed. If you snap a joint, you can easily repair it by splicing. I have done it on the stream with a pocket knife and a bit of line from the reel. If you are fighting a big one, you don't have to favor a $60 to $100 job. You can give him the butt merrily and if he breaks you, there are a couple or more replacements in the car. You can have a large assortment of tackle, light to heavy, for various kinds of fishing and still have something left to buy the latest in lines, reels and tackle without unduly straining the bank account. Putting sixty dollars into a new rod when your wife needs a new hat does not make for peace in the family. To enumerate the many imported and domestic rod woods would require an article in itself. Dr. Wells does a very good job in this respect but even he does not complete the list. You can experiment quite a bit on this.

I have ruined a lot of good Tonkin cane trying to make six strip or even four strip bamboo tips as the Doctor advises but finally gave up in despair. I was simply not good enough. But I have made some rods of two piece bamboo. Sounds funny, doesn't it? I split out two strips a little wider than the taper I plan to make and plane down the soft inside until the two, fitted together, make the required taper; then glue them and when the glue is set, plane down the sides four square. I leave the joints square, scraping off the edges just enough to prevent cut-

(Turn to Page 29)

— TACKLE TIPS —

"Winter Care of the Outboard"

By Don Shiner

The manuals which accompany new outboards are very often mislaid. It is then questionable whether or not the owner gives his motor the proper care for winter storage. This is a necessary part of keeping the motor in the best possible condition because it is during this period of inactivity air, moisture and acids have the best chance of harming it. Many dealers provide winter storage for outboards, provide a spring time tuneup for a nominal fee, but for the individual who is not in a position to have this service rendered for him, this article should act as a guide.

Of prime interest is the removal of all water and moisture within the motor and motor housing. Allowed to remain in the cooling system and in the cylinder chamber, condensation can damage these vital areas. Those who have run their motor in salt water should first flush the cooling system with fresh water and wash down the exterior of the motor to remove any salt crystals. Then, if the motor casing is rubbed with an oily cloth this will keep the outboard itself looking new and will prevent rust and corrosion from gaining a foothold.

The lower unit consisting of the water inlet, propellor, and prop housing should be inspected. Check the grease in the prop housing and add enough lubricant to fill. The prop itself should be removed and a thin layer of lubricant or grease applied on all moving parts. It's a good time to check the shear pin. In the event it is bent or nearly cut in half, it should be replaced with another of proper strength.

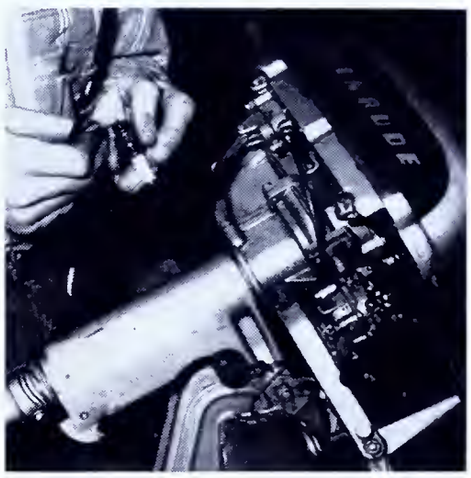
Next, empty all gas and oil moisture from the fuel tank. Provided the interior of the exhaust chamber is dry and it should be if the motor has not been used for several days, the motor can be turned upside-down to empty the fuel. Check the fuel filter or screen, remove any lint, dirt or other debris that has accumulated on it.

Spark plug or plugs should be removed and a generous amount of oil inserted into the carburetor air intake opening. By giving the motor a few turns by hand spray all the working parts within the cylinder and crankcase. This will coat these parts with a protective film of oil.

The spark plugs can be checked, the spark gap reset to .023 or what ever the particular motor calls for. If the porcelain is chipped or broken it is well to replace the plug instead of waiting until spring.

This care will keep the motor in fine shape for instant spring use. Store it in a clean dry place, not in a damp basement or cold attic, but rather in some out-of-the-way closet or heated garage. It's best to cover the motor with a canvas wrapper, a cloth, paper or the shipping box in which it originally came, to protect it against dust and dirt.

No sportsman would store his fishing rod, reels or flies without first seeing that they are properly cleaned and cared for and there is no reason why outboards should not receive this same care. Serviced in this manner, the outboard will be ready to kick off faithfully when you are ready to use it again.



The spark plug should be removed and the spark gap reset to .023 or what ever the particular motor calls for.

Going over the motor with an oily cloth will keep the outboard looking new and will prevent rust and corrosion from gaining a foothold.

The spark plug or plugs should be removed and a generous amount of oil should be inserted into the carburetor air intake opening.

It is best to cover the motor with a canvas wrapper, a cloth or paper to protect it against dust and dirt.

DARK WATER

(*From Page 17*)

perfect trout stream beckoning you on, and rises are plentiful, you don't turn aside to explore a little tributary. Not unless . . .

The bridge hole is at the end of Breastwork Valley, a well-fished pool fringed with jackpine, sheltered in the shadows of a covered bridge. It's a quiet place, the kind of water a fisherman likes to come upon at the end of his day.

You set your rod on a rock, ease down on the bank, and wait for the fishing to come to you. From the bank you see the mountains rising blue and hazy from the valley plain. And, over the murmur of flowing water, you hear the drone of locusts and the cawing of crows, sleepy sounds that come softly and distantly across the streamcut valley.

There's some nice trout in the pool, fat browns. Once in awhile you get a brookie. But mostly, by the time you hit the bridge, your creel is already resting heavy on your shoulder, and you don't much care to crowd your luck.

Anyway, that's how I felt that July evening as I sat there listening to a whippoorwill calling in the dusk. After a time I saw someone working downstream toward me, shooting long casts into the fast water. He saw me as he came to the pool, but he didn't say anything. He was just a kid: about twelve, I figured. Cast a neat line, though.

He waded to knee-depth on the far side of the pool and stood quietly, waiting for his ripples to roll away. As he waited, a trout dimpled the surface near the mouth of the pool. The kid worked out line, false-cast, and let his fly drop lightly into the current.

It was a good cast, well placed. The fly rode the riffs before scudding into the backwater. The trout swirled, took the fly, and turned quickly for deep water. The kid hooked him and let him have his head, so's to not disturb the pool. After a few runs the fish came up and rolled, and the kid brought him in.

Holding the trout by its lower jaw, he waded to shore, over the bridge, and onto the bank beside me. He held the trout for me to see, a ten-inch brown, darkly spotted.

"Nice fish," I said. "You handled him just right."

"Best one all day." He grinned. "Got a few smaller ones upstream. Turned 'em all back, though."

"Not much eating on one trout," I said, feeling in my creel. "I've got six here. If you were to take one, you'd have enough for a meal."

The kid took my trout, a nine-inch native, and examined it closely. "Brookie, huh? Where'd you get him?"

"Upwater a piece," I said. "In the meadow."

The fish had come from under a culvert below the bridge hole. But that was my secret.

The kid nodded. "Yeah, there's a few brookies there. I figured you might of been to the spawning pool . . ." He shut off abruptly, as if he'd said too much.

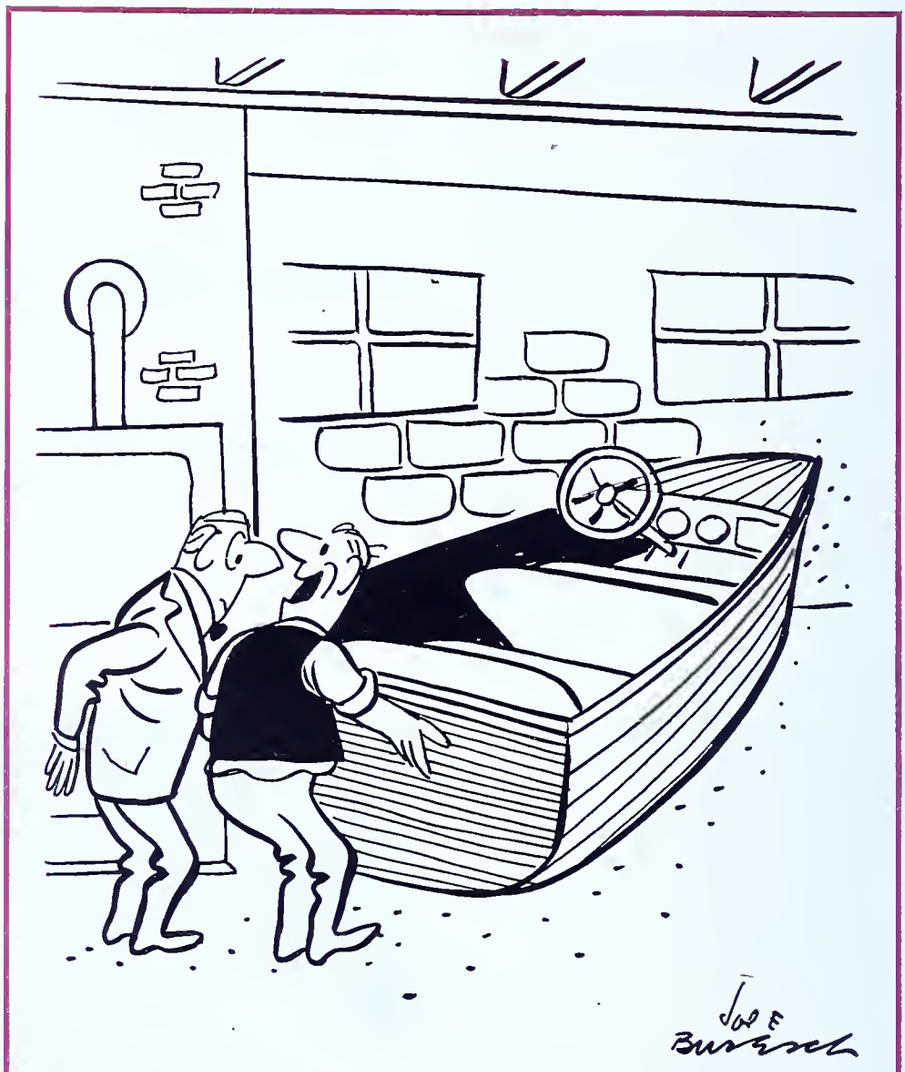
We sat in self-conscious silence for awhile. The spawning pool. In my mind I ran over all the stretches where a kid might have a secret pool. Sounded like the headwaters. Well, it could wait. You don't ask right out.

Besides, it was that time of day when talk comes easy. The evening mist was rising on the valley floor and the mountains were already in shadow, darker masses against the fading glow of the sky. The kid crouched beside me and flipped a pebble into the pool.

"It's a secret pool," he said finally. "Nobody knows but me."

"I see."

He asked to borrow my knife. I gave it to him and he slit the two trout, sloshed them in the water, and wiped his hands on the grass.



"I'm not even going to try to get it out . . . I have a big basement and it floods every Spring!"

"This brookie is dark, like the ones from my pool," he said. "That's what made me think . . ." He worked a piece of string through the trout's gills.

The music of water and wind was soft in the evening. A moth fluttered spent-wing into the pool where there was a swirl and a splash, then silence, the murmur of the stream, as before.

"You get brookies pretty good, huh?" the kid asked.

I admitted as how I took a few now and again.

"Maybe we could work a swap," he suggested. "How big do they come in the places you know?"

I opened my creel and took out three trout, two brookies and a brown, all good foot-long fish. "Good enough?" I asked.

He whistled softly. "My place ain't that good."

"Size isn't everything," I allowed.

"You'd have to see it. It's special."

"I'd like to."

He eyed the three trout I had laid on the grass. "Okay, if you tell me where you get trout like them. And . . . you'd have to promise never to tell about my place."

"Can't ask more than that," I said, not too quickly.

"Well, you know that rapids in the cut about two miles above here?"

I knew the place. A feeder brook entered the mainstream at the start of the fast water. I had bypassed it many times.

You go up the tributary, the kid said. I was doubtful because the brook is so small, but he talked convincingly. I heard him out, then told him about the culvert. The place is always good for a trout or two. After that they seem to catch on. It's a place you can go to anytime and be sure of taking a trout, so you needn't go home skunked.

Night had fallen by the time we finished our exchange of confidences.

I suggested, "What say you take me to your place tomorrow?"

The kid nodded. "We can start here at the bridge."

"Six o'clock okay?"

"Okay by me. See you tomorrow."

He took his rod and the trout and climbed back into the road and headed toward town. I cupped my hands behind my head and lay back. In retrospect, I recall being amused with the kid and our swap of trout holes. The spawning pool, he'd called it. It sounded . . . well, mysterious. But then, it was a night when anything was believable. The sky was black-velvet dusted with stars. The air was cool and still. I lay there a full hour before driving back over the mountain to the lodge.

Next morning I was at the bridge before the mist had risen from the valley. The kid was waiting for me. We started fishing upstream, not saying much, but taking a few trout, and enjoying each other's company.

At the rapids where the tributary joins the Breastwork he started into the ravine, motioning me to follow. We climbed in silence and came to the pool at the crest of the ridge. Then we returned to the mainstream and split up, him heading downwater for the culvert, and me working up toward some old log-jams I knew about.

The next day, the last day of trout season, I left the Breastwork to cast Spicer Brook. Hung a real nice one, a 16-inch rainbow, the best of the trip. He made a good weight in the creel.

When I got back to the lodge that evening I felt real good, all relaxed and ready to go back to work. I packed the trout in wet newspapers, cleaned up the lodge, and loaded into the car. It was a long drive back to the city. But all the way, and for a long time afterwards, I kept thinking about the kid and his pool. I don't know. It sort of got under my skin.

By the time April came around again it had worked in deep. It hit town the day before fishing opened, looking for the kid. Didn't see him, though, and nobody seemed to know him. There's so many kids in those country towns, and I didn't even have his name to ask for.

So next day I started alone, fishing toward the rapids where the tributary cut in. The stream was high and roily, the trout feeding deep, and I took a few on nymphs. Could have got more, but I missed a lot from hurrying.

Judging from the way things were changed, some strong floods had ripped down the valley earlier in the year. Pools that had held good trout the summer before were washed out, and places that had always been shallow riffles were dredged into deep holes. Everywhere the trees were uprooted and boulders tossed about. It gave you a respect for the force of angry water. You wouldn't of known it was the same stream.

That's the only way I can account for my not finding that tributary again. The rapids were washed-out, gone completely. Nothing looked the same. Tributaries were everywhere, rain-swollen freshets charging down from their rockbeds. But none of them looked right. None of them came sunlit and singing out of the rocks like the one the kid and I followed up that day.

Two days I fished the valley, tracking little brooks up to their sources. I climbed mountainsides until even I wasn't just sure what I was looking for, or why.

So I left the Breastwork and worked out on some other streams —Spicer Brook, Little Bucktail and Trout Run—putting a lot of good water behind me. And still I couldn't keep from thinking about the pool. I caught myself wondering if it had been real, if I had actually been there, or if it had all been part of a summer's fishing dream.

After some figuring, I decided maybe it was best, my not finding the tributary again. The kid's secret was safe. And the trout would know where to go. I had seen it once. I'd remember it the way it was that time.

Seeing a thing once, sometimes, is all a man can ask.

OLD MAN WINTER IS PLOTTING NOW

(From Page 18)

stream. They will be sluggish and not particularly interested in food, largely because the water is so cold.

Later they will range widely over the stream in search of shelter and food, but in the early spring each trout will stay pretty close to its own favorite spot in the stream. All this means the angler who thinks a fish will take his fly or bait the instant it strikes the water is due for sad disillusionment.

Let's be realistic about another point. The worm and minnow fisherman is going to score much more often than the angler who does his fishing with artificial lures.

How then, you ask, do you solve the problems of early spring trout fishing?

There isn't enough space in this magazine to set down all the answers to that question, but here are some suggestions that you will do well to consider and store up in your book of strategy for next spring.

First, don't try to cover too much territory. If you are acquainted with the stream you will fish, concentrate your efforts on areas where you know the trout are most likely to be found. Such a spot may be a pool fed by a small branch of the main stream. It may be a part of the brook which contains rocky shelter, sunken logs, or other hiding places for the fish. It may be a pool with cut-under embankments. Or it may be a pool big and deep enough that it is logical to assume trout have found refuge there for their awakening from their winter lethargy.

Don't overlook the possibilities of picking out such a spot and spending an entire day at it, fishing slowly and patiently. Many an opening day angler has taken a good catch of trout from a single hole while less successful fishermen have traveled up and down the stream in a hit-or-miss quest.

Almost any trout, in the spring, will take a worm-baited hook if it is presented properly and if the angler gives it time. The worm—which should be a bright and lively one of good size, although not necessarily in the night-crawler class—should be attached to a single, snelled hook, with just enough sinker attached to get it down into the current.

If the bait is being fished in a quieter pool, it should be allowed to sink to the bottom. There it will come to rest—a long rest, perhaps—until a trout comes poking along the bottom and slowly mouths it and moves away.

The worm also can be used in faster currents. Here the technique is to allow the flow of the water free play with the bait. This can be accomplished by casting the bait to an upstream point, then allowing it to sink to the bottom and tumble downstream with the force of the current.

The worm bait, in addition, can be carefully worked into pockets in the course of the stream and manipulated into currents that will carry it into the water that loses speed as it flows along the cut-under banks of the stream.

In still fishing with a worm, the bait should be lifted from the bottom now and then to help attract the attention of the fish.

The feeding trout, in spring, is likely to bump the bait a few times with its nose before taking it. And when the fish does actually seize the worm it likely will hold it in its lips for a time before the bait finally is swallowed when the line begins moving through the water as the fish swims away. It is then the tip of the rod should be snapped, or the throw-line tightened, and the trout hooked.

That's slow fishing, yes, but the angler who uses plenty of time and patience can usually catch fish—even in early spring.

The minnow fisherman practices his art in pretty much the same fashion as the worm fisherman in early spring. He uses a different kind of bait, but he also must take into account the habits of trout in early spring of sticking fairly close to one spot, of biting slowly and halfheartedly.

Veteran minnow fishermen like to search out pockets of quiet water in spring and "spin" a minnow in them. In this kind of an-

gling the minnow is rigged on a double or treble hook, with a swivel between the leader and the snell to which the hook is looped. The angler drops the minnow into a pocket, allows it to sink, and then retrieves it in short, jerky movements that, with the aid of the swivel, cause the minnow to spin. Sometimes it is amazing the action a minnow fished in such a manner can produce in a trout stream.

Spring trout fishing is not a sport for bait anglers alone, however. A day may dawn now and then during the early season when the sun shines brightly, when some natural insects appear, and when trout actually can be caught with dry flies. The darker patterns of flies usually are the most effective.

The wet fly fisherman also may have varying success with his underwater lures, imitating the larvae and nymphs of aquatic insects. The bucktail and streamer fly also may be used, since they represent minnows, on which trout feed even under the rather rigorous conditions of early spring.

A small spinner, with either a nickel or copper finish, is another artificial lure that is productive early in the season.

At times the spinner itself may attract strikes, but more often it is good if used with some form of bait, for example a worm. Then the purpose of the spinner is to attract the attention of the fish and to draw it into the vicinity of the bait. The still-fisherman, incidentally, can use this type of lure with success. The technique is to allow the spinner and worm to sink to the bottom of a pool, then lift it off the bottom occasionally, causing the spinner to flash in the hope it will be seen by a cruising trout.

One thing no experienced early season angler needs to be told is that fishing is less productive in big streams than it is in the smaller brooks in early April. Of course, this is because the larger the stream, the more wild it is likely to be at this season of the year. Even under favorable conditions, although it may be perfectly clear, the bigger trout creek is running deep and swift early in the spring and is, therefore, much more difficult to fish efficiently.

All over Pennsylvania are little mountain or meadow trout streams which can provide excellent sport in April—provided the fisherman can be satisfied to deal with relatively small fish. The lunker is indeed the exception in this type of water.

But the run-off water caused by melting ice, snow and spring rains occurs in the smaller feeder streams before it does in the larger creeks into which they empty, and the pools and riffles to which the trout fisherman is accustomed appear first in the smaller streams.

It is next to impossible to fish little mountain creeks with artificial lures, since there is lack of space for the proper casting of flies. But wriggling worms dropped into brook pools, swept through riffles and rapids where rock formations and other obstructions cause pockets of comparatively quiet water, carried under cut-under banks are bound to pass within the range of vision of many trout.

Here, too, a single worm is better than a whole gob of them. It should be loosely looped on the hook so that it can twist and turn in the water.

There are veteran mountain brook anglers who literally crawl up to likely pools on their hands and knees, who fish in a crouch, and who take other extreme measures to avoid frightening the fish they hope to catch.

Fishing the little meadow brooks is a real test of the angler's skill. Many anglers like them because usually there is sufficient room for fly-casting.

But meadow brooks must be approached with extreme caution. Heavy vibrations on the ground along the streams must be avoided.

The experienced meadow brook fisherman and the angler who has wide experience in fishing mountain streams make a habit of circling wide of the stream in traveling from pool to pool and from riffle to riffle. They remain as far back from the water as their rods will permit.

A typical seasoned angler under these conditions will keep himself at rod's length from the water, extend the rod tip out to the pool, shake it gently until the sinker finally takes the bait down into the water, and then carefully "feel" along the stream until trout strike at the bait.

So there you have some things calculated to set you thinking these cold winter nights. Planning now the strategy you will follow after next April 15 is the only way you can hope to checkmate Old Man Winter who, as we wrote at the beginning of this piece, is piling up some tough problems that you'll have to solve early in the fishing season of 1952.

ROD MAKING

(From Page 24)

ting the wrappings, of which I put on plenty to make sure the glue holds. As I do not know how to get square ferrules, I join up by splicing.

I thought I had done something original in making these square rods, but when I visited the Marine Show in Miami some months later, I found a whole rack full of them from the light fly rod to the heaviest Tarpon tools. They were probably four strip, but the joints did not show.

Well, if this script persuades any brother fisherman to employ his off time in this fascinating pastime, I shall feel well repaid for the writing.

RUBBER BANDS IN FISH BAFFLES EXPERTS

(From Page 13)

velop any clues on the rubber band's origin or the process by which it was acquired by the fish.

There were no scars or other indications that the rubber band had once encircled the fish and had passed through the fleshy part which had then grown over the rubber band. If this had occurred some scales would have been missing. It would have shown since fish cannot grow new ones.

Although it is unknown how long it takes for a bluefish to hatch from

an egg, nor where their spawning grounds are located. Dr. Fowler cannot conceive of any natural circumstances which would result in the fish growing around the rubber band. He is of the opinion that man had a hand in the mystery.

That stand only complicates the mystery. How was a seemingly unbroken rubber band ever put through the fish? Unless the rubber was cut and then cleverly fused back together again so that the joint was invisible, the band could not get on the fish the way it was located. To place it in position unbroken means passing one solid object through another.

If then, the fish did not acquire the band through some unusual chain of events in its natural element, how did somebody place it on the fish in the position it was found? Further, why would anyone go to all the trouble that the maneuver evidently entailed?

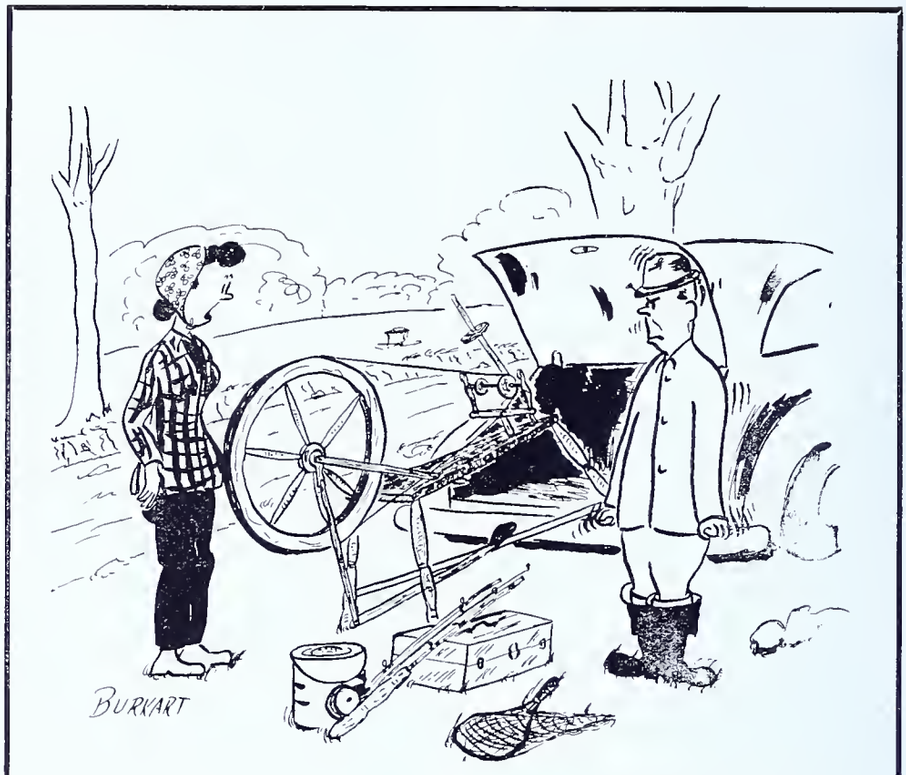
A Lot of Trouble

The fish had to be caught, kept alive while was pierced in a spot that wasn't vulnerable, the cut rubber band inserted and then fused back together again in such a manner that it appeared to be a continuous piece that had never been tampered with.

If somebody went to all that trouble to confound some fishermen later, they were playing a billion to one shot. First the fish had to live, then it had to avoid being killed by a larger fish and then be caught by a hook and line fisherman before any excitement was stirred up.

That could be, but the idea seems far fetched.

"Whodunit," fans can take over from there.



"OH, spinning REEL!! I thought you said load the spinning WHEEL!"

TIGERS OF THE SHENANGO

(*From Page* 12)

working the river for muskies and here is the boat I have been using. If it looks familiar to the ANGLER's Don Shiner it should, for the boat was built by a brother and I from the plans listed in the May 1951 ANGLER.

And the best part was that we spent something less than 25 bucks to launch her. The most expensive item was the two 14-foot side boards which set us back 12 bucks. For floor boards we used scrap bits laying around. A chain, a lock, a pair of oars, two coats of paint, and we had a nifty river boat that is hard to beat.

Don wasn't kidding when he wrote that it would handle easy. Baby, she behaves perfectly. Take a look at the name we gave her, "*Big Mike.*" Know why? We're after the giant muskie I wrote about and perhaps Big Mike will give an assist in catching Big Mike. Nevertheless, here's proof positive of a good deed the PENNSYLVANIA ANGLER did for two amateur boat builders. Thanx! We wouldn't sell the dang thing for 100 bucks!

THE STINGERS

(*From Page* 8)

wagon-covers, tents, sacking, clothing materials, and even cloth for military underwear.

Nettles when cut and dried can be used as fodder for domesticated animals, having a food value equal to leguminous crops. They also have their value as human food, the young tops being boiled in the spring like spinach. They are used very largely in this way by the peasantry in the West of Ireland. If a leaky, wooden vessel is rubbed with a handful of nettle leaves the juice enters the cracks and coagulates, and the leakage is repaired, though no hint is given as to the length of time the repair will hold good.

Although this weed is widely despised, man has been able to put it to some economical use. Therefore, when you are walking through the woods or fishing along a stream and are stung by these stinging nettles, think of some of the good uses man has put it to before condemning it.

SOME BOATS, TUBS & SIEVES I HAVE RENTED

(*From Page* 23)

To hang on to this demon of the waterways requires the tenacity of a bulldog. If you had as many arms as an octopus you could use them. Trying to troll from such a water rocket is unthinkable even if it's throttled down. So after a few turns around the area you head dockward, a sadder but wiser man.

Naturally there are numerous other craft made exclusively (so it seems) to harass the lover of the rod and reel but this tirade will suffice. To go into the sordid details of discussing the other types will only increase the dissension among the ranks of our buddies. Laying all kidding aside, believe me, renting some boats (?) is not a joke. It can be a nasty business, full of terror, danger and even an unhappy ending. We fishermen will all breath a sigh of relief when some sort of inspection law for all boat rentals is rigidly enforced.

The old scheme, "rent a boat at your own risk" places too much responsibility in the wrong direction. The majority of Keystone state anglers have a keen sense of water safety, refuse to rent "booby traps." But there are always those, eager to get fishing, who go out in any tub or sieve, often to their sorrow.

A NEW ERA FOR AN OLD CANAL

(*From Page* 7)

berm bank at frequent intervals where the Canal winds through town.

Local contractors will be contacted and asked to dump their extra fill in the breaks. A promise of 150 railroad ties has been made for constructing the dam and already a local company is dumping old power line poles on the site which will also be used for building the dam.

The sportsmen themselves will construct the dam with advice by local engineers. They will also clean out the Canal and cut and burn the brush that is now growing in the bed.

The last job will be the stocking with fish and the planting of trees and shrubs along the berm side of the Canal.

It isn't a job that will be done overnight but the way the clubs have taken hold, it won't be too long before the old canal days will be back. It means that the young boys, and their elders, can fish and swim in clean water literally in their own back yards while at the same time the present situation which is an eyesore and a health hazard will be eliminated for good. There seems to be no reason why other portions of the Canal can't be treated likewise.

A Perfect Christmas Gift

for

THAT MAN IN THE ARMED FORCES

OR

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☐ NEW ☐ RENEWAL

Pennsylvania Fish Law Violations

CASES SETTLED DURING THE MONTH OF OCTOBER 1951

ALLEGHENY COUNTY

Beckwith, Paul E., 528 Second Ave., Tarentum, Pa. Exceeding creel limit $10.00
Brisek, John G., 3029 Josephine St., Pittsburgh, Pa. Fishing without a license 25.00
Cavitt, Murrell, 686 Colfax St., Springdale, Pa. Interfering with an officer 100.00
Codemo, Albert, 820 Mill St., Bridgeville, Pa. Four undersized bass 40.00
Erdman, George B., 119 Stamm Ave., Pittsburgh 3, Pa. Exceeding creel limit 100.00
Flaherty, Francis, 210 Beltshoover Ave., Pittsburgh, Pa. Lending license 25.00
Kirley, Edward R., 511 Curtin Ave., Pittsburgh, Pa. Failure to display license plates 5.00
Kuzia, Joseph, 150 Carver St., Pittsburgh, Pa. Failure to display license button 25.00
Lauda, Louis J., 202 Parkfield St., Mt. Oliver, Pa. Failure to display license plates 5.00
Lewis, Charles H., 3415 Bates St., Pittsburgh, Pa. Exceeding creel limit 10.00
Marion, Stanley, 186 Home St., Pittsburgh, Pa. Unnaturalized foreigner 20.00
Morris, Victor, 603 Broad St., Sewickley, Pa. One undersized bass 10.00
Myers, James H., 1021 N. Canal St., Pittsburgh, Pa., Failure to display license plates 5.00
Nacey, Leo, 233 Fleet St., Rankin, Pa. Failure to secure license plates 10.00
Powell, R. A., 874 E. Hills Dr., New Kensington, Pa. Exceeding creel limit 10.00
Rhodes, Patrick C., 5369 Breezeport St., Pittsburgh, Pa. Fishing without a license 25.00
Schmigel, Anthony G., 631 Brentwood Ave., Brentwood, Pa. Exceeding creel limit 10.00
Shimkus, William, 313 Hamilton Ave., Duquesne, Pa. One undersized bass 10.00
Zdby, Edward, 1806 Bonifay St., Pittsburgh 3, Pa. One undersized bass 10.00

BEAVER COUNTY

Butcher, Stanley, R. D. No. 1, Clinton, Pa. Violation of the rules and regulations 20.00

BERKS COUNTY

Becker, James, Boyertown, Pa. Illegal device 20.00
Davis, Frank, R. D. No. 1, Reinholds, Pa. Illegal device 20.00
Dorman, Karl, 829 Thorn St., Reading, Pa. Transfer of ownership and did not remove license plates 25.00
Kohl, Max, 2400 High St., Reading, Pa. Reckless operation of motorboat 10.00
Masano, Bruce, 717 Weiser St., Reading, Pa. Illegal operation of motorboat 25.00
McCook, Norman, Robesonia, Pa. Illegal device 20.00
Psilelis, George, 715 Dick St., Reading, Pa. Reckless operation of motorboat 25.00
Schlieve, Harold A., 1250 Alsace Rd., Reading, Pa. Fishing without a license 25.00
Takach, Carl, 365 Cherry St., Reading, Pa. Failure to display license plates 10.00
Wenger, Ray, 1031 Cherry St., Reading, Pa. Reckless operation of motorboat 25.00

BLAIR COUNTY

Kephart, Wilburt M., 114 Broad St., Hollidaysburg, Pa. Exceeding creel limit 20.00
Vance, Hamlin E., R. D. No. 1, Roselawn, Hollidaysburg, Pa. Exceeding creel limit 20.00

BRADFORD COUNTY

Crawford, Lyle, Alba, Pa. Operating a motorboat without a license 15.00
Lattimer, Claude E., R. D. No. 2, Laceyville, Pa. One undersized bass 10.00
Wolcott, Gresley, 182 Cayuta St., Sayre, Pa. Selling five bait fish 50.00
Yuska, Wesley, 110 N. River St., Sayre, Pa. Fishing without a license 25.00

BUTLER COUNTY

Kalina, John J., 124 Lewis Ave., Box 433, Lyndora, Pa. Failure to display license plates 5.00

CAMBRIA COUNTY

Kennedy, Clair, 413 Napoleon St., Johnstown, Pa. Failure to display license plates 5.00
Richards, Walter, 603 Harshberger St., Johnstown, Pa. Fishing in a closed stream 25.00
Wike, Jesse C., Belsano, Pa. Three bass in closed season 30.00

CENTRE COUNTY

Perryman, Lynn E., Centre Hall, Pa. Two trout in closed season 20.00

CHESTER COUNTY

Phillips, Wm. K., R. F. D. No. 2, Oxford, Pa. Two undersized bass 20.00
Stidanis, Wells, Hodgson St., Oxford, Pa. Fishing without a license 25.00
Wallace, Dennis, R. D. No. 2, Oxford, Pa. Three undersized bass 30.00

CLARION COUNTY

Hicks, Mrs. Margaret, Box 327 East Brady, Pa. Fishing without a license 25.00
Hicks, S. R., Box 327, East Brady, Pa. One undersized bass 10.00

COLUMBIA COUNTY

Cherington, Henry, R. D. No. 3, Bloomsburg, Pa. Buying one black bass 10.00

CRAWFORD COUNTY

Gutekunst, George, R. D. No. 6, Cochranton, Pa. Exceeding creel limit 10.00
Prody, Thomas, R. D. No. 2, Titusville, Pa. Selling trout 10.00

DAUPHIN COUNTY

Dadel, M. A., Millersburg, Pa. Operating a motorboat without a license 20.00
Hunter, W. A., Millersburg, Pa. Operating a motorboat without a license 20.00

DELAWARE COUNTY

Jochen, Ronald E., 3714 Berry Ave., Drexel Hill, Pa. Fishing without a license 25.00

FOREST COUNTY

Brasington, John C., Tionesta, Pa. Taking tadpoles on Sunday 10.00

LACKAWANNA COUNTY

Prokop, Frank, 504 Dean St., Scranton, Pa. Fishing without a license 25.00
Sostak, Edward A., 227 Hudson St., Jermyn, Pa. Fishing without a license 25.00

LANCASTER COUNTY

Herr, Clermont, 1547 Oregon Rd., Lancaster, Pa. Illegal device 20.00
Kocher, Charles, 1000 Spruce St., Columbia, Pa. Exceeding creel limit 20.00
Monchuk, John, R. D. No. 1, Columbia, Pa. Illegal device 20.00
Moose, William R., Spring Garden St., Elizabethtown, Pa. Exceeding creel limit 20.00
Stabley, Irene A., 572 N. Plum St., Lancaster, Pa. Fishing without a license 25.00

LACKAWANNA COUNTY

Jay, Guy E., 1506½ Hanna St., New Castle, Pa. Operating a motorboat without a license 10.00

LEBANON COUNTY

Deamer, Lloyd, 212 S. 7th St., Lebanon, Pa. Illegal device 20.00
Martin, Kenneth, 1215 E. King St., Lebanon, Pa. Fishing without a license 25.00
Martin, Violet, 1141 E. Cumberland St., Lebanon, Pa. Fishing with a borrowed license 25.00
Wenrich, Warren, 411 S. 6th St., Lebanon, Pa. Illegal device 20.00

LEHIGH COUNTY

Zeitner, William J., 1239 Vermont St., Allentown, Pa. Failure to keep light on boat moored on Lake Wallenpaupack 5.00

LUZERNE COUNTY

Kozokas, Ignatz, 1821 North St., Luzerne, Pa. Failure to display license plates 5.00
Martin, Lawrence, 805 Shoemaker Ave., Wyoming, Pa. One undersized bass 10.00
Miscavage, Peter, 170 E. Thomas St., Wilkes-Barre, Pa. One undersized bass 10.00
Molesky, Walter, 32 Columbus Ave., Wilkes-Barre, Pa. Two undersized bass 20.00
Mulhern, Thomas, 137 Parmell St., Pittston, Pa. One undersized bass 10.00
Pawlowski, Chasimer, 552 Shawnee St., Wilkes-Barre, Pa. One undersized pike 10.00
Snarski, Alfred, 830 Scott St., Wilkes-Barre, Pa. Exceeding creel limit 20.00
Symeon, Adolph, 29 Dodson Lane, Wilkes-Barre, Pa. One undersized bass 10.00

LYCOMING COUNTY

Lynn, Edward M., 53 N. Second St., Hughesville, Pa. Exceeding creel limit 100.00

McKEAN COUNTY

Arthurs, Ulysses S., Hazelhurst, Pa. Fishing without a license 25.00

MIFFLIN COUNTY

Richards, Edward L., 221 S. Walnut St., Burnham, Pa. Failure to display motorboat license plates 5.00

MONTGOMERY COUNTY

Hill, Lester, R. F. D. No. 1, Barto, Pa. Discharging three charges of dynamite 300.00

MONTOUR COUNTY

Bioskey, Aida, 529 N. Mill St., Danville, Pa. Fishing without a license 25.00

NORTHUMBERLAND COUNTY

Bojack, Joseph, 404 E. Columbia St., Atlas, Pa. Illegal device 20.00
Bruno, Mick, 628 Scott St., Kulpmont, Pa. One undersized bass 10.00
Weaver, Paul, Snydertown, Pa. One undersized bass 10.00

PERRY COUNTY

Shaffer, Wayne A., 532 S. 4th St., Newport, Pa. Illegal device 20.00

SCHUYLKILL COUNTY

Bejgrowicz, Frank, 227 S. Jardin St., Shenandoah, Pa. Illegal device 20.00

SOMERSET COUNTY

Berkey, Orie, Fort Hill, Pa. Fishing without a license 25.00

SULLIVAN COUNTY

Hartzig, Ernest, Lopez, Pa. Exceeding creel limit 100.00
Millheim, Albert, Mildred, Pa. Fishing in a closed stream 20.00
Ryan, Charles, Mildred, Pa. Fishing in a closed stream 20.00

UNION COUNTY

Snyder, Raymond, 52 N. 8th St., Lewisburg, Pa. One undersized bass 10.00

WASHINGTON COUNTY

Reynolds, Paul, 55 W. Chestnut St., Washington, Pa. Operating a motorboat without a license 10.00
Slater, George P., 65 Latimer Ave., Strabane, Pa. Exceeding creel limit 10.00

WESTMORELAND COUNTY

Kuznicke, Joseph, 1414 4th Ave., Arnold, Pa. Failure to secure license plates 10.00

WYOMING COUNTY

Sprague, George, Nicholson, Pa. Exceeding creel limit 10.00

YORK COUNTY

Keesee, John, 810 Carl St., York, Pa. Selling undersized rock bass 70.00

OUT OF STATE

Benson, Verna, 2305 Jefferson St., Wilmington, Del. Fishing without a license 25.00
Dufford, Howard L., 1101 N. Walnut St., Elmo, Ill. Fishing without a license 25.00

School Page

A HANDY REFERENCE FOR TEACHERS PARENTS STUDENTS

By CARSTEN AHRENS

BETTY AND BILL FIND OUT ABOUT CHRISTMAS TREES

Betty and her cousin Bill were hiking across a state forest with Uncle Bob. Uncle Bob was a warden. He had just stopped and looked puzzled at the remark Betty had made.

Betty had said, "I've never seen so many kinds of Christmas trees before."

"What do you mean . . . Christmas trees?" he asked.

"She means," Bill said helpfully, "trees with cones."

"No I don't," protested Betty, "I mean trees that don't lose their leaves in the fall . . . evergreen trees."

"Do you know," said Uncle Bob, "we have plantings of nine different kinds of *conifers* here . . . that means trees that bear *cones*. I think this would be a good time to introduce you to them."

"Are all of them used as Christmas trees?" inquired Betty.

"They shouldn't be . . . Some would make Santa shake his head sadly!"

"Why?"

"In the first place, some lose their needles very quickly."

"That's right," agreed Betty. "Last year our Christmas tree began to lose its needles as soon as daddy set it up. We took it down three days after Christmas because its needles were all over the floor. We had it in water, too."

"Last year, our tree," remembered Bill, "had hardly lost a needle two weeks after Christmas!"

"What's the secret, Uncle Bob, of getting a con-i-fer," Betty pronounced slowly, "that won't lose its leaves?"

"You'll just have to learn which kinds happen to be good holders of their needles and which quickly become careless and untidy. Look here at this planting of *Larch* or *Tamarack* . . ."

"Or what??"

"Tamarack . . . Oh, if you want a real name for this tree, use the Indian name. The Indian called it the *Hackmatack!*"

"We'll settle for *Larch*," laughed Bill.

"It has beautiful thick clusters of needles," Betty declared.

"But you wouldn't want it for Christmas: it loses its needles every fall as ordinary trees lose their leaves."

"Then," said Betty slowly, "it is a conifer but not an evergreen."

"Good," said Uncle Bob, "you're learning fast."

They walked on to the next planting, and Uncle Bob said.

"Here may be the poor Christmas tree that you had last year. It's a *Hemlock*, Pennsylvania's state tree. It's the most graceful of all the conifers, but it sheds its leaves quickly after it is cut."

"May we have twigs from each tree so that we can draw them, Uncle Bob?"

Our State Tree, The Hemlock
Courtesy of the
Department of Forests and Waters

"You bet; I'll help you with them when we get back to the car. I'll see that you name them correctly."

"O Uncle Bob, what are these trees?" called Bill.

"Here you have a chance of meeting all four of the pines that grow in this forest. Here . . . I'll get you both twigs: This is *White Pine* . . . This, *Red Pine* . . . This, *Scotch Pine* (It has been brought in from Europe) . . and here is one lonely *Loblolly Pine*. Now, how will we tell them apart?"

The children studied the branches intently for awhile.

Betty said, "The White Pine has fine needles in a cluster."

"Good!" exclaimed Uncle Bob. "One needle for each letter in the word, W-H-I-T-E."

Bill had an idea. "The Red Pine and Scotch Pine each has two needles in a cluster, but the needles of the Red Pine are twice as long as the needles of Scotch Pine, so the two can be told apart."

Betty could hardly wait her turn. "Uncle Bob, the Loblolly Pine . . . I like that name, Loblolly, . . . has three needles in a cluster."

"Good work," said Uncle Bob. "Now we have two short, two long, three in a cluster, and five in a cluster."

"I don't believe," Betty observed, "that pines would make very good trees for Christmas."

"Why not?"

"The clusters of needles are too far apart . . . there is too much bare limb. Decorating a pine wouldn't be easy."

"OK . . . Let's look for something better then . . . How about these *Junipers?*"

"Don't some people call them *Red Cedars?*" asked Bill.

"They do. But they're really Junipers. See how compact they are, how thick their branches grow, how dense are their sharp, scaly leaves."

Betty was busy sketching a little tree.

"Uncle Bob," she said, "Didn't mother say that you and she always had a Juniper as your Christmas tree?"

"That's right. I was as old as you are before I discovered that anyone used any other kind of a conifer for Christmas. At our end of the state, the Juniper was the only kind that grew."

"It doesn't look like a Christmas tree to me," objected Bill.

"That's all right, Bill. Say, here are the last two species of conifers in our forest. They are different species, but don't they resemble each other?"

"What are they?"

"These are *White Spruce*. Those are *Balsam Fir*. Either will make a good Christmas tree, but I'll take the Balsam for mine."

"They look very much alike. How can you tell that is a spruce?"

"When they have cones, and those do, it's easy."

But the children couldn't guess. Uncle Bob had to help: "See how the cones of the Balsam Fir sit upright and point to the sky?"

"They look like a row of little birds," said Betty.

"Oh, I see," shouted Bill; "the Balsam Fir cones sit up and the spruce cones hang downward. They are easy to tell apart."

"Now, let's summarize," suggested Uncle Bob. "You have twigs of the Larch, Hemlock, White Pine, Red Pine, Scotch Pine, Loblolly Pine, Juniper, White Spruce, and Balsam Fir. Let's make a chart:

Larch . . . Not for Christmas . . . loses needles in fall.

Hemlock . . . Poor . . . drops needles after being cut.

The Pines . . . needles in separate clusters . . . difficult to trim.

Juniper . . . OK, if you like its appearance (Bill doesn't).

White Spruce . . . OK.

Balsam Fir . . . excellent.

"Uncle Bob, why do you like the Balsam best?"

"Because of its pleasant odor. Your whole house will fairly smell like Christmas if you have a balsam."

"Thank you, Uncle Bob, for telling us about the conifers."

1846